AUG 30 1944

PAPER TRADE JOURNAL

AUGUST 24, 1944

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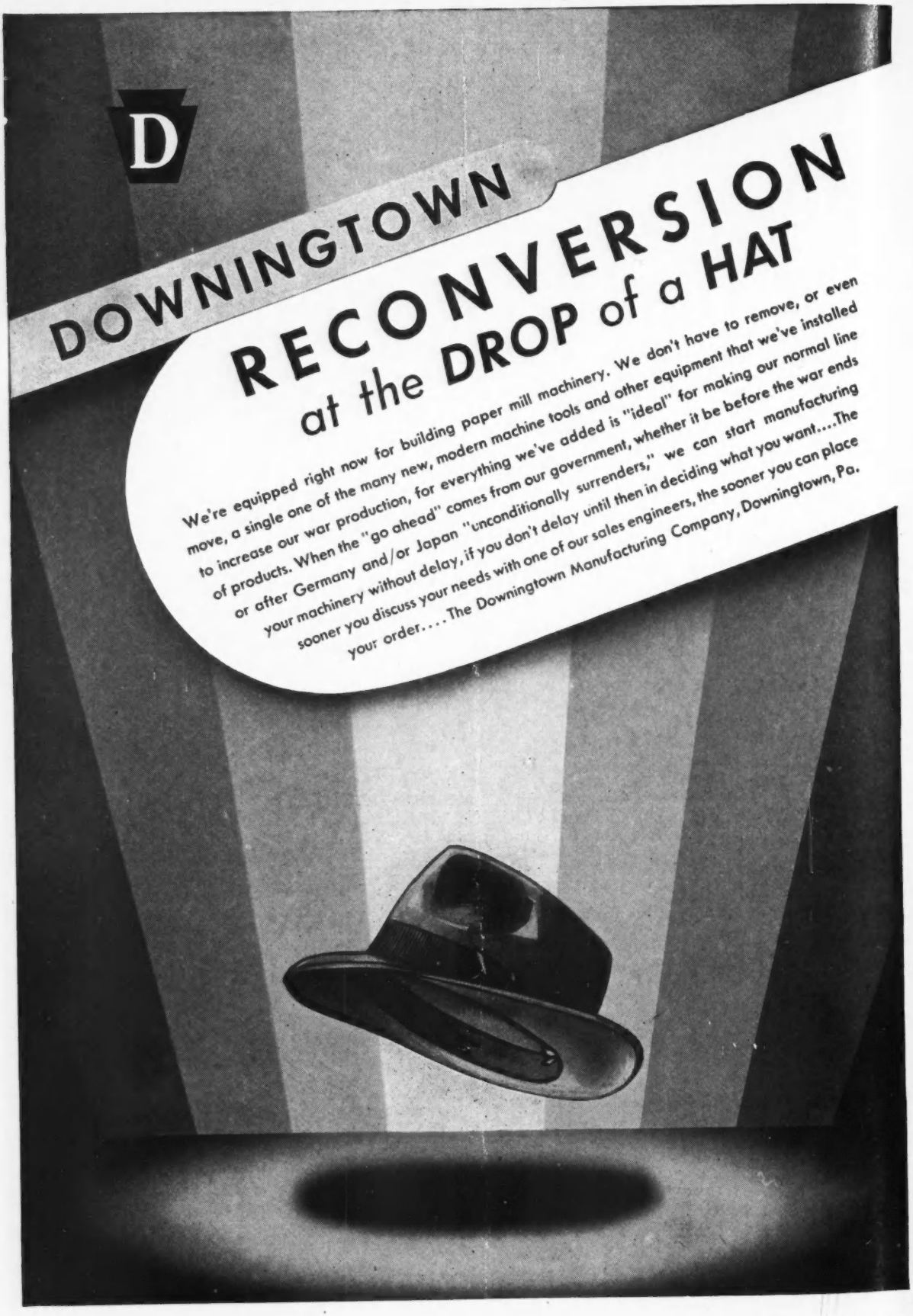
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President

ARTHUR E. GORDON
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GEO. E. LOCKWOOD
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HENRY J. BERGER
Editor

STILLMAN TAYLOR
Associate Editor

R. G. MACDONALD
"TAPPI" Editor

LYNN M. LAMM
Washington Correspondent
All of 15 W. 47th St.

Western Representative:
H. K. VINTON
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Vol. 119, No. 8

PAPER TRADE JOURNAL

Title Reg. U. S. Pat. Off.

August 24, 1944

Book Mfrs. Paper Committee and WPB Meet

Advisory Group Confers With Head of Paper Division To Review General Situation—Declares Pulp Situation Is Critical—Requirements Are Discussed — Equitable Distribution A Big Problem.

At the recent meeting of the Book Paper Manufacturers Industry Advisory Committee, reported in part, Rex W. Hovey, of the Paper Division of the War Production Board presided. The following committee members were present: Ralph M. Beckwith, Crocker, Burbank Papers, Inc.; Fitchburg, Mass.; Nathan H. Bergstrom, Bergstrom Paper Company, Neenah, Wis.; Clarence A. Clough, New York and Pennsylvania Company, Inc., New York; Charles A. Gordon, Oxford Paper Company, New York; J. R. Kimberly, Kimberly-Clark Corporation, Neenah, Wis.; Walter L. Mead, Consolidated Waterpower and Paper Company, Wisconsin Rapids, Wis.; Dwight L. Stocker, Michigan Paper Company, Plainwell, Mich.; Austin W. Story, The Chillicothe Paper Company, Chillicothe, Ohio; H. W. Suter, The Champion Paper and Fibre Company, Hamilton, Ohio; Lawrence W. Strattner, West Virginia Pulp and Paper Company, New York, and Rufus I. Worrell, Mead Corporation, Chillicothe, Ohio.

The Book Paper Manufacturers Industry Advisory Committee met to review the general situation with respect to pulp and paper and woods production and to discuss manpower problems, allocation policies, Government requirements (particularly military), finishing room problems, and other matters of interest.

Reports on Pulp Allocation

David Graham, of the Pulp Allocation Office, WPB, reported that 372,245 tons of pulp had been authorized for the minimum production of 478,000 tons of groundwood printing and book papers for the second quarter of 1944; actually a total of 371,476 tons of pulp (138,106 tons for groundwood printing and 233,370 tons for book paper) was used during the period for the production of 507,967 tons of groundwood printing and book papers. The figures seem to indicate general compliance and excellent cooperation within the industry, Mr. Graham believed.

The over-all pulp situation remains critical. Production during the second quarter of 1944 totaled 2,528,550 tons as compared with an estimated production of 2,579,000 tons. It seems obvious that the issuance of Directive No. 1 has been effective in eliminating much of the overoptimism in the figures prepared by industry to show estimated production.

Mr. Graham added that collections of waste paper during June totaled 595,400 tons as compared with 622,000 tons in May; inventories of waste paper now total approximately 288,000 tons.

Harold Boeschenstein of Forest Products Bureau, WPB, cautioned industry against believing that the war will soon be over and that military requirements will drop appreciably and suddenly. Actual demands for paper and nonpaper products made from wood pulp are steadily increasing. Military requirements for the third quarter and scheduled for the fourth quarter will take a greater proportion of the total available supply than at any time up to now. Requirements for nitrating pulps for the explosive program have doubled for the third quarter and will increase approximately another 30% for the fourth quarter; requirements for cartons and other shipping containers will pryamid as more materials and supplies must be moved to an ever increasing number of men in the different theatres of operations; increased requirements for waterproof papers, map and chart papers, etc., will affect the book paper manufacturers indirectly, if not directly; and printing paper requirements will be substantially increased as our armies advance into various European countries for which paper for publications will have to be supplied. Unless the industry can increase its production appreciably, the amount of paper available for civilian requirements will be greatly curtailed.

Pulp Allocation Policies

Mr. Graham stated that the problem of so-called backed up stocks of groundwood in certain mills had been given much thought. It is, he said, quite evident that the 478,000 tons minimum production schedule is not adequate for all demands being placed on the mills. As a temporary measure, for the next 60 days, these backed up stocks of groundwood in mills with adequate wood supplies will be released for the production of various types of papers, to bring available supplies more nearly in balance with the percentage quotas established by the various limitation orders covering the use of paper. Mr. Hovey emphasized that all of the paper produced under this temporary expedient would be subject to direction to military or other Government requirements.

There was considerable discussion of the proposal to allocate pulp to specific grades of paper. Only one member of the committee expressed himself as favoring such a policy; all other members of the committee strongly opposed the suggestion. They pointed out that such a procedure would destroy the flexibility that now enables the mills to operate on a reasonably efficient schedule; it would result in seriously curtailed production; and, most important of all, it would not accomplish its objective because there would be no way of assuring that the consumers had used the

(Continued on page 20)

Conservation Force Alert to Fire Hazard

Wisconsin Field Forces Stand By To Meet Danger In Dry Woodlands and Fields—State Board Reviews Labor Petition—Tri-State Council Holds Two-Day Conference — Other Industrial News.

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., August 21—All divisions of the Wisconsin Conservation Department ordered their field forces to stand by last week to cope with a high fire hazard resulting from a prolonged drought and high winds. Sectional rains have not done more than to give temporary relief.

Workers have been instructed to prepare fire fighting tools and equipment for possible emergencies. The hazard confronts southern Wisconsin woodlots and grain fields, and the danger is considered greater in this area because the lands are outside of the state fire protected areas in the northern forest regions.

The Wisconsin forest protection record for the year on the north's 13,000,000 acres remains good, with a loss of only 7,000 acres. The department cited public carelessness as the greatest danger as a source of potential fires.

Power Company Assesses Tolls

The Chippewa and Flambeau Improvement Company has recommended tolls of $131,450 to be assessed against water power users along the Chippewa and Flambeau rivers for services during the first half of the year, the Wisconsin Public Service Commission announced last week. The tolls are:

Flambeau Paper Company, Park Falls, $18,061; Lake Superior District Power Company, Ashland, $15,241; Ladysmith, $3,756; Cornell Wood Products Company, Cornell, $9,288; Northern States Power Company, $17,742; Eau Claire Dells Improvement Company, $13,362.

Objections to the tolls, if any were to be considered at a hearing at Madison, Wis., today.

State Labor Board Hears Petition

A hearing was held Wednesday afternoon, August 16, by the Wisconsin Employment Relations Board at the city hall at Wisconsin Rapids, Wis., on the petition of Office Workers' Local 23,627 (AFL), for an election in the main office and mill of Consolidated Water Power and Paper Company. Offices of other Consolidated mills are not affected.

The union was chartered last April. It claims a majority of the 80 eligible workers in the two offices as union members. It wants the election to determine bargaining representatives. It is expected that the election will be held within the next two or three weeks.

Consolidated's position was expressed by Leo J. Barrette, personnel manager, who said that "The company takes no stand for or against our employes joining a union according to their own choice. However, if a majority votes to select this union as their bargaining agent, we will abide by the result of that election."

Tri-State Council Meets

Large delegations from Minnesota, upper Michigan and Wisconsin attended a two-day conference, August 19 and 20, of the Tri State District Council of Paper Makers, Pulp, Sulphite and Converting Plant Unions at Menasha, Wis.

Nicolet Local 148 of the Menasha Products division of the Marathon Corporation was host. All sessions were held at the Trades and Labor hall, but delegates registered at Hotel Menasha, conference headquarters. Group meetings and general sessions were held, and the gathering was climaxed Sunday evening with a banquet at 6:30 at Germania hall, with a dance following. Judge S. F. Luchsinger, Oshkosh, Wis., was the principal speaker, and arrangements had been made for the presence of a member of the War Labor Board.

Kimberly-Clark Group Holds Picnic

Group No. 6 of the Kimberly Mill Safety contest held a picnic August 17 at Telulah park, Appleton, Wis. The group, which includes millwrights, pipefitters, machine shop, painters and structural departments, was the first award-winner during the first two months of the safety concert. Groups which have perfect records receive cash awards at the end of every month.

Honored for 40 Years' Service

Seven employes of Kimberly-Clark Corporation's Lakeview mill at Neenah, Wis., will be honored Tuesday, August 22, in observance of their 40 years or more of service with the corporation. The occasion will be a picnic and program at Telulah park at Appleton. Two hundred officials, crewmates of the honor guests and other employes of long service from the main office, Badger-Globe, Kimberly-Clark Ordnance, and Lakeview were invited.

The seven men have worked a total of 295 years. They are: Adolph Paulson, 47 years; George Casperson, 44 years; Louis Asmus, 42 years; William Neabling and Fred Kreblean, 41 years, and Julius Herzfeldt, Sr., and Louis Anderson, 40 years. All reside at Menasha.

Gilbert Workers Hold Outing

The tenth annual family picnic of the Gilbert Paper Company was held August 13 in Smith park, Menasha, 986 persons being present. Games, contests, dancing and special acts provided entertainment throughout the day.

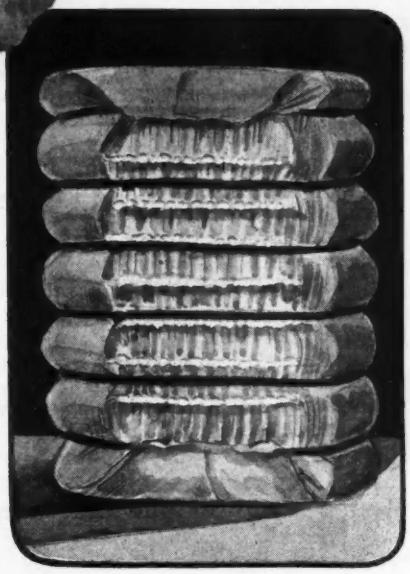
Thilmany Wins at Softball

Mill No. 1 at Thilmany Pulp and Paper Company, Kaukauna, Wis., won the Thilmany League softball championship for the full season's play, winning both halves. There will be a chapionship series the week of August 27 at which time the champions will play a 3-game series with the Thilmany All-Stars, who are to be picked by the team managers.

Donnacona To Retire Notes

TORONTO, Ont., August 21, 1944 — Donnacona Paper Company, Ltd. has announced that on September 15, all the outstanding 10-year 5½% notes will be redeemed. At December 31 last there were $450,000 of these notes still outstanding of an original issue of $750,000.

While There's Cotton There's RAYCO Linter Cotton



ONE of the many advantages of using RAYCO Linter Cotton in paper making is the stability of this source of supply. Cotton is one of America's major crops, and this country is the world's largest cotton raiser. While there is cotton, there is RAYCO Linter Cotton.

RAYCO Linter Cotton consists of selected FIRST-CUT cotton linters, carefully sorted and graded by the Railway Supply & Manufacturing Company. It comes to you ready for the cooker—uniform in staple. Bleaching and cooking time are reduced. You operate with a substantial saving in both time and labor.

Railway Supply & Manufacturing Company furnishes experienced chemists and fiber technicians to assist paper mill personnel in simplifying manufacturing procedure with the use of RAYCO Linter Cotton.

At your request, one of our representatives will be glad to visit your plant.

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Developing Safe Employees

Fewer accidents mean less delay in getting essential materials finished and delivered where they are vitally needed. Many companies today are intensifying or supplementing their activities to reduce to a minimum accidents occurring on and off the job. A new report, Developing Safe Employees, based on accident-prevention activities of a number of industrial organizations, has been issued by the Safety Bureau of the Metropolitan Life Insurance Company as an aid in fostering such activities. Copies are now available for interested executives.

An excellent opportunity to acquaint the new employee with the safety policies of the company, the report observes, is presented through the initial interview and induction procedure. Proper placement or job assignment is another important step in developing the safe employee. Several of the tests and studies made to enable the placement department to give consideration to individual cases are described.

The experience of a number of companies indicates that the majority of accidents usually involve a comparatively small group of employees and that "accident-prone" tendencies are usually the result of fundamental characteristics of the employee, improper working conditions, and sometimes personal problems of the employee. A study of individual cases of accident-prone workers, the survey states, often enables the organization to determine the factors involved and to take corrective steps.

Many industrial executives, it was found, are giving practical recognition to the need of integrating safety training into job-training programs, whether this training is given in a class or individually, on the production line or in the assembling room.

Continued interest and enthusiasm for safety programs may also be developed through the effective use of advertising within the plant. Among the types of publicity material used are displays of protective equipment, illustrated safety pamphlets, bulletin board material, house organ articles, contests and awards, local newspaper advertising, films and letters to employees. Many of these are illustrated in the report.

G. E. Knapp Made Logging Engineer

On August 1 G. E. Knapp began his duties as logging engineer with the Southern Pulpwood Conservation Association. The southern industry has long recognized the need for a special study of logging methods. The organization of pulpwood cutting crews, design of power saw equipment, and a study of transportation methods will all be included in the new project being undertaken by the Association.

Mr. Knapp is a graduate of the School of Forestry and Conservation, University of Michigan. He has recently been released by the Pennsylvania Central Airlines, by whom he has been employed for some time. Mr. Knapp was placed on an inactive status by the Army in order to serve in a civilian status in this and in other capacities dealing with the transportation by air of vital army supplies.

The directors of the Southern Pulpwood Conservation Association definitely plan for the logging studies to be intimately correlated with the Association's conservation work. Because of this it was felt that a man selected for the logging study should be one whose primary interest was in timber but whose specialty was the field of logging methods.

Penn. Salt Forms Export Department

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., August 21, 1944 — Pennsylvania Salt Manufacturing Company announces the organization of an Export Department at the company's main office at 1000 Widner Building, Philadelphia. Mr. John H. S. Barr has been appointed manager. The formation of an Export Department is a result of the company's study over the past year of the possibilities for postwar business in all Latin American countries including Cuba, Haiti, Jamaica, and Puerto Rico. Mr. Barr made an extended visit to Brazil and other important Latin American countries last year for the purpose of investigating the possibilities for future business in the heavy and specialized chemicals produced by the company. In the United States the Pennsylvania Salt Manufacturing Company is a manufacturer of chemicals for agriculture, water and sewage, metal industries, ceramics, glass, oil refining, pulp and paper textiles, leathers, laundry and dry cleaning, aviation gasoline manufacture, and many other industries. Mr. Barr has been identified with the company for 15 years in technical and sales capacities.

Dr. William A. LaLande, Jr., formerly director of Research of Attapulgus Clay Company, has joined the Research and Development Department of Pennsylvania Salt Manufacturing Company as Director of Research, according to announcement by Dr. S. C. Ogburn, Jr., manager of Research and Development. Dr. LaLande will have immediate charge of the Research Division.

National Paper Trade To Meet Oct. 5

A. H. Chamberlain, executive secretary of the National Paper Trade Association, has sent out the following announcement which is self-explanatory:—

"Arrangements have been completed for our quarterly Mid-West Regional Meeting to be held at the Stevens Hotel, Chicago, on Thursday, October 5, at 9:30 A.M. and continuing through the day. There will be a group luncheon for those who wish to sit in.

"Delay in making this announcement has been due to the fact that President R. M. Harris has been making plans for a special meeting of the Executive Committee of our Board of Directors to be synchronized with the Regional Meeting. In normal times this meeting would be held in connection with the fall Convention, cancellation of which was necessitated by the definite request of the Office of Defense Transportation.

"The Executive Committee meeting has now been called for the preceding day, October 4, thus permitting the National officials to stay over for the Regional Meeting and add to its interest by their report and participation. Developments promise to be pretty rapid during the remainder of the year and the Committee will function in studying the situation and outlook with a view to determining Association policies and procedure. The entire staff of the National office will of course be in attendance and consideration will be given to matters pertaining to both Fine and Wrapping Paper Divisions."

Foxboro Adds to N. E. Sales Force

The Foxboro Company, manufacturers of industrial instruments for measurement and control, announces the addition of Paul Torre to the staff of sales engineers covering the New England territory.

"...let him brag who takes his armor off"

Claims of superiority never mean much until actual service proves that they are justified . . . Heppenstall, for example, says that their chipper knives will handle more logs for less money than *any* other brand on the market . . . That's a statement you can bank on, because their knives have been demonstrating the plain truth of it for a long, long time . . . Matter-of-fact, Heppenstall guarantees it—very flatly—in writing . . . You see, making a chipper knife is a highly specialized craft and neither we nor anyone else has ever found a cheaper way of building one that would duplicate the economical efficiency of a Heppenstall E.I.S. . . . Write for a quotation. Heppenstall Co., Pittsburgh, Pa.

HEPPENSTALL

E. I. S. Chipper Knives

Writing Paper Mfrs. Hold Advisory Meeting

Committee Confers With War Production Board To Consider Many Important Industrial Problems—Pulp Allocation and Production of Paper Reviewed — Government Requirements Are Also Discussed.

The Writing Paper Manufacturers Industry Advisory Committee, at its recent meeting, reported here in part, with the War Production Board, Rex. W. Hovey presiding, reports the following committee members were present: W. J. Garrity, The Munising Paper Company, Chicago, Ill.; A. C. Gilbert, Gilbert Paper Company, Manasha, Wis.; Hugo Hanson, W. C. Hamilton & Son, Miquon, Pa.; Norman Harrower Linton Brothers & Company, Fitchburg, Mass.; William S. McClellan, P. H. Glatfelter Co., Spring Grove, Pa.; Clyde B. Morgan, Eastern Corporation, Bangor, Maine; F. Henry Savage, International Paper Company, New York; W. B. Zimmerman, Howard Allied Mills, Urbana, Ohio; and John D. Zink, Strathmore Paper Company, West Springfield, Mass.

The committee met to consider (1) pulp allocation, (2) pulpwood, (3) production of paper and paper board, (4) Governmental requirements, (5) manpower, and (6) other problems. Rex W. Hovey acted as Govenrment presiding officer. C. Ray Davisson represented the Office of Industry Advisory Committees.

Announces Pulp Allocation

Fine Paper for Third Quarter.—An allocation of 170,000 tons of wood pulp has been made for the fine paper segment of the industry during the third quarter, Mr. David Graham, chief of the Pulp Allocation Office, told the committee. Mr. Graham described the procedures applied in allocating the use of the pulp among the various mills for the production of 222,500 tons of fine paper as determined by the Requirements Committee. Each integrated mill was authorized to use 85% of the amount of wood pulp which that mill proposed to produce and consume in the manufacture of such papers during the third quarter. Mr. Graham also described the procedure with respect to partially integrated mills, mills proposing to use de-inked fiber, mills proposing to use rags, and nonintegrated mills. The application of the above procedures resulted in the authorization of the following amounts of wood pulp for use in the manufacture of fine paper in each class of mill for the third quarter:

Class of Mill	Authorized Use of Wood Pulp (in short tons)
Mills Making Highly Essential Papers Only	6,000
Fully Integrated Mills	99,000
Partially Integrated Wood Pulp Mills	11,000
Supp. Fibre Mills (de-inked fiber)	12,000
Rag Mills	25,000
Nonintegrated Mills using no supplemental fiber	17,000
Total	170,000

Orders Amended.—Mr. Graham briefly spoke of the amendment to Schedule III of limitation order L-120 dated June 5, which covers fine writing papers. He also mentioned Direction 1 to preference order M-93, of June 27, which concerns the preferred status of certain deliveries and uses of wood pulp.

Fine Paper for Second Quarter.—The total amount of wood pulp consumed for fine papers amounted to 185,000 tons in the second quarter, Mr. Graham said. Actual *machine* production of fine paper was 253,000 tons. Total fibrous materials and filler amounted to 279,000 tons. Total waste paper consumed was 31,000 tons. Total fibrous materials excluding wood pulp and waste paper amounted to 39,000 tons, and total filler to 23,000 tons.

Total Pulp for Second Quarter.—The total consumption of wood pulp for the second quarter amounted to 2,748,000 tons, Mr. Graham said. The amount authorized was 2,787,000 tons. Consumption of pulp for paper and paper board was programmed for 2,656,000 in the second quarter. Actually used, however, were 2,617,000 tons.

Major Hamilton briefly described a new method of contracting used by the Army. He stated that the Army prefers that work be done on cut sizes at the primary mills if possible because of the costs of the finished product. He also thought that in some cases members of the industry may be able to get help in securing cartons.

Manpower Decided by Essentiality

It is highly important to industry to have as many papers as possible on the essential list of the War Manpower Commission, William Bardsley of the WMC stated. An industry needs an essential rating in order to obtain help under the new system of manpower controls recently announced. To be considered essential, 75% of a plant's production must be on the essential list. In response to a question, Mr. Bardsley said that work on papers sent in to a plant for finishing will be classed as essential, provided that the paper is on the essential list and that the 75% rule is satisfied. He also spoke of the part which essentiality plays in the interregional recruitment program.

In as far as industry is essential, it should apply to local USES offices under the priority referral program, Mr. Bardsley said. Women are sometimes included under the program as there is considerable flexibility in its administration.

Mr. Hovey observed that a new list of papers is being presented to the Essential Activities Committee of the WMC this week in an effort to have more papers considered essential.

Mr. Bardsley spoke of the supply of labor in the woods, which is one of the most difficult problems the WMC has. Women cannot be used to the same extent as in most other industries. Moreover, the supply of labor for the woods must be recruited from the rural areas, where it is available only in the off season, beginning about October 1.

Other Problems Are Discussed

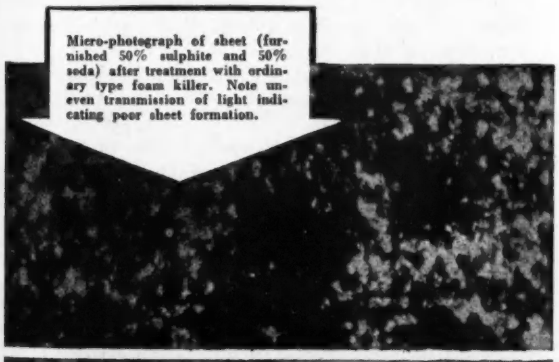
Purchases by Army.—Captain Kronenberg commented briefly on the heavy purchases in June by the Army of paper to be used for stocks at Oakland, Memphis, and Philadelphia. He pointed out that the stocks were badly needed to fill overseas demands. Requisitions from Europe also were received by the Army in June.

In response to a question from a committeeman, Captain Kronenberg said that no change in specifications on wet strength map paper is contemplated. He

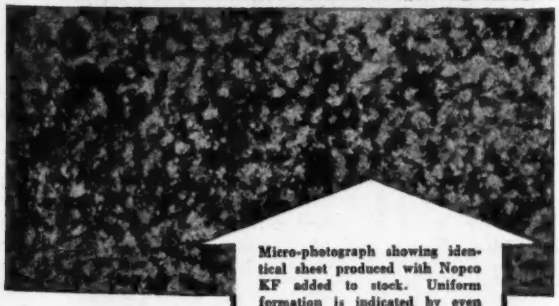
"NOW THAT'S A SHEET!"

"YEAH, AND IT'S THE FIRST TIME WE EVER RAN ANYTHING LIKE IT AT TOP SPEED."

Not an unusual comment in mills where Nopco KF is helping make quality paper and paperboard in greater volume. It does so by aiding formation of the paper-making fibres at increased machine speeds. Even when operating at capacity, entrained air — the common cause of thin spots in paper — is dissipated as effectively as if the stock was being handled at slower speeds, because Nopco KF keeps "working" *even on the wire.* Obviously, production increases — quality is maintained or improved. Trouble-free performance like this is easy on the nerves.



Micro-photograph of sheet (furnished 50% sulphite and 50% soda) after treatment with ordinary type foam killer. Note uneven transmission of light indicating poor sheet formation.



Micro-photograph showing identical sheet produced with Nopco KF added to stock. Uniform formation is indicated by even distribution of light and dark area.

53% Fewer Thin Spots

That's the Nopco KF average, due to its super "bubble-busting" power. Without it—sheet formation suffers. With it sheet formation is uniformly fine.

Nopco KF is not to be looked on as an extra expense — nor is it to be considered as "aspirin tablet." It is a chemical substance, specifically formulated to aid sheet formation. See for yourself. Order enough for a trial run. Write, wire, phone or use the coupon.

NOPCO
REG. U.S. PAT. OFF.

NATIONAL OIL PRODUCTS CO.
HARRISON, N. J.
Please send technical data on use of Nopco KF.

Name.....

Company.....

Address.....City.....

offered to help members of industry who have special problems on map paper.

Proposal for Pulp Allocation.—Because of complaints that mills are diverting paper from book publishers, magazines, etc., to spot sales, a proposal has been made that pulp be allocated against the various grades of paper, Mr. Hovey said. It is also proposed that form WPB-514 be discontinued.

It was pointed out that under the allocation proposal there is not assurance that paper would reach the person for whom it is intended. Moreover, there would be a loss of production because of the lack of flexibility of such a system.

One of the committee members believed that there will be a shortage of paper for civilian use by the next quarter. Another member commented that civilian consumption has been maintained by inventories. Mr. Hovey noted that the increased receipts of pulpwood will not be felt in the production of paper for civilian use as military and the government and essential civilian requirements are increasing.

The ready acceptance of government orders will do much to establish the essentiality of the paper industry, Mr. Hovey stated. Moreover, unless such orders are accepted, it is likely that a priority system will be established, which will be undesirable for both the industry and the WPB. Mr. Hovey estimated that some 90% of the mills are accepting their proportionate share of Government business. Directives will be placed on the 10% of the mills which are not accepting their part of the burden.

Julius Trefz of the WPB legal staff pointed out that if necessary the Government can take 100% of industry's production of paper instead of the 35% now provided in order M-241. He suggested that the industry will be better off if it accepts military orders voluntarily.

Harold Wright of the Paper Division reviewed the regulations on paper and paper board contained in conservation order M-241. Previous to the issuance of the order, less than 100 mills making paper and paper board were carrying the entire load of Government business. The number of mills has since been increased to include 90% of the qualified producers.

In June the Paper Division received requests from the armed services to place orders amounting to 20,000 tons, nearly all in cut sizes, Mr. Wright said. The mills able to run cut sizes numbered only 188. With the large military orders, a problem of finishing capacity has arisen. In order to obtain data on finishing capacity, a questionnaire is being sent out to the 188 mills, covering groundwood, book, and writing grades of paper. Mr. Hovey suggested that the mills should be questioned about their finishing capacity provided that they had additional labor. Mr. Wright indicated, however, that it is planned to put such a question to certain mills after the questionnaires have been returned. A committee member emphasized the fact that the bottleneck on finishing is caused by the short labor supply.

Thomas Stock Co. Buys Building

The Thomas Paper Stock Company, with headquarters in Chicago, and branches in New York, Philadelphia and Washington, has purchased a five-story warehouse building, bounded by American, Dauphin, York and Phillips street, in Philadelphia, Pa., according to a report from that city. The building occupies a plot 493 x 120 feet, and contains 150,000 square feet of floor room.

B. R. Newcomb Heads Waldron Corp.

B. R. Newcomb has been elected president of the John Waldron Corporation of New Brunswick, New Jersey, the oldest and one of the largest builders of industrial processing machinery. Mr. Newcomb was

B. R. Newcomb

formerly with the Worthington Pump and Machinery Corporation and more recently with the American Optical Company.

S. N. Finney and F. W. Eagan, both long associated with the Waldron organization, have been elected Vice-Presidents of the Corporation.

Charles Gillett Joins AFPI Staff

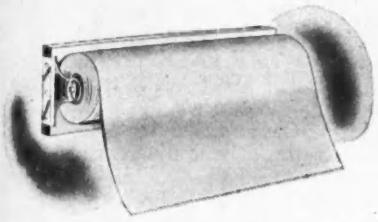
Charles A. Gillett, former State Forester of Arkansas and lately Industrial Forester of the Seaboard Air Line Railway, will join the Public Relations Staff of American Forest Products Industries, Inc., September 1.

Mr. Gillett will be AFPI Forester in charge of a new forest industries program—forestry promotion. He will direct efforts seeking greater public understanding of the forest fire problem, the organization of new state "Green" committees similar to those in Washington, Oregon, and Minnesota, and act as liaison officer between American Forest Products Industries and state forestry departments.

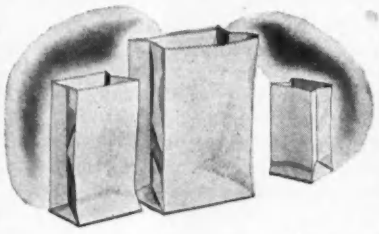
A native New Yorker, Mr. Gillett has had extensive experience in the practice of his profession since leaving Cornell University in 1930, where he was working toward a PhD degree in forestry. He is a graduate of the Cornell Forest School and holds a Master's degree. He has served as a field inspector in North Dakota, an extension forester in the same state, an instructor at Cornell University, an extension forester in Arkansas, a state forester, and an industrial forester. He has an unusually wide acquaintanceship among federal and state foresters and forest operators.

Mr. Gillett is active in the affairs of organized forestry, and is vice-president of the Appalachian section of the Society of American Foresters, chairman of the Forestry Division of the Florida State Chamber of Commerce, a member of the Executive Committee of the North Carolina Forestry Association, and a director of Virginia Forests, Inc.

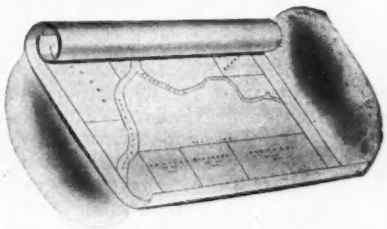
Making papers like these?



TOWELINGS



FOOD WRAPPINGS



MAP PAPERS

Boost their wet strength at low cost with

UFORMITE 466

a new resin for addition at the beater

HERE is a new, economical means for increasing the wet strength of toweling, bag papers, map and blueprint papers, glassine and other grades. Even in low concentrations UFORMITE 466 substantially increases the wet and dry physical characteristics of all paper stocks . . . including Kraft, sulfite and rag.

For beater application
This unique urea formaldehyde resin is specifically designed for application at the wet end of the paper machine—beater, head box, fan pump, or other convenient point. This feature permits full use of the drier section for curing the resin. Time required for passage through the drier is usually sufficient for curing.

Infinitely soluble in water, UFORMITE 466 can be added to the finish in any desired concentration.

To these special advantages of UFORMITE 466 are added such other features as low cost and freedom from color, odor, or taste in the finished sheet.

Readily available
Substantial increases in production capacity make it possible for The Resinous Products & Chemical Company to supply UFORMITE 466 in ample quantities to meet the needs of the paper industry. The technical assistance of our staff is at the disposal of paper manufacturers in most effectively applying this outstanding wet strength resin.

NEWER DEVELOPMENTS IN SYNTHETIC RESINS

- **PAPER RESINS**
  Liquid and powdered types
  ...for weatherproof paperboard
  ...for increasing wet strength
  ...for laminating work
- **RESIN ADHESIVES**
- **COATING RESINS**
- **ION EXCHANGE RESINS**
- **PLASTICIZING AND MODIFYING RESINS**

If you want assistance in any of these synthetic resin applications, our technical staff will be glad to study your problem without obligation.

3 awards to The Resinous Products & Chemical Company and its associated firms, Rohm & Haas Company and Charles Lennig & Company.

THE RESINOUS PRODUCTS & CHEMICAL COMPANY

WASHINGTON SQUARE, PHILADELPHIA, PA.

Awards for Government Paper

WASHINGTON, D. C., August 23—Walker-Goulard-Plehn Company has been awarded the contract for furnishing the Government Printing Office with 163,150 pounds of white V-mail paper at 7 cents. Other paper awarded for contracts bought on the open market include the following:

Walker-Goulard-Plehn Company will also furnish 190,890 pounds of V-mail writing paper at 7 cents; and the Gummed Products Company will furnish 100,000 sheets of white gummed paper at $6.66 per ream. Brown-Bridge Mills will furnish 400,000 sheets of white gummed paper at $15.00 per M sheets and Dennison Manufacturing Company will furnish 100,000 sheets of same at $15.20 per M sheets. Barton, Duer & Koch Paper Company will furnish 640,000 pounds of white writing paper at 8.83 cents and D. L. Ward Company, will furnish 159,744 pounds of white book paper at 7.71 cents.

International Paper Company will furnish 18,920 pounds of Springhill index board at 6.17 cents, and the Lining Paper Company will furnish 1,000 sheets of litho lining paper at $27.50. Eastern Corporation, will furnish 80,000 pounds of pink writing paper at 9.63 cents and the same firm will furnish 50,000 pounds of white ledger paper at 9.36 cents.

Walker-Goulard-Plehn Company will furnish 160,000 pounds of V-mail paper at 7 cents, and Birmingham & Prosser Company will furnish 200,000 pounds of yellow writing paper at 7.96 cents. Paper Corporation of U. S. will furnish 55,000 pounds of white book paper at 8.19 cents and Zellerbach Paper Company will furnish 122,850 pounds of white book paper at 8.34 cents.

Paper Corporation of U. S. will furnish 72,000 pounds of white book paper at 8.19 cents and International Paper Company will furnish 140,175 pounds of bristol board at 6.17 cents and the same firm will also furnish 21,000 pounds of same at the same price. Walker-Goulard-Plehn Company will furnish 33,750 pounds of GW writing paper at 7.4 cents and the same firm will also furnish 31,375 pounds of the same at 7.4 cents.

Bulkley Dunton & Co. will furnish 128,000 pounds of white bond at 14.9 cents and Central Ohio Paper Company will furnish 50,000 pounds of white bond paper at 14.9 cents. Mudge Paper Company will furnish 55,000 pounds of white index paper at 15.5 cents and the Stanford Paper Company will furnish 50,000 pounds of white index paper at 15.55 cents. Barton Duer & Koch Paper Company will furnish 21,000 pounds of white index paper at 22.4 cents and the same firm will also furnish 24,450 pounds of the same at 22.4 cents. Paper Corporation of U. S. will furnish 40,800 pounds of white bond paper at 22.85 cents and Whitaker Paper Company will furnish 81,225 pounds of white writing paper at 7.98 cents. Bermingham Prosser Company will furnish 400,000 pounds of white book paper at 7.08 cents and Wilcox-Walter-Furlong Paper Company will furnish 81,225 pounds of white CW writing paper at 7.98 cents.

War Production Board

WASHINGTON, D. C., August 23, 1944—Under a new policy for the licensing of casein imports, which have been restricted exclusively to established importers on a historical basis, domestic processors will be permitted to import one pound of acid casein for each pound of rennet casein they produced at the request of the War Production Board by partial diversion of their normal acid casein production during the first six months of 1944, WPB reported today.

The new policy will become effective September 1 and will remain in effect throughout the remainder of the year.

Formerly, those persons desiring to import lactic casein were required to show by custom entry that they had imported casein during the base years of 1940, 1941 and 1942. With the issuance of the last permits, each importer was given a total tonnage that would make his import tonnage for 1944 equal to his yearly average for the base period.

The tonnage for which shipping space has been allowed after September 1 will be divided as follows:

(1) Qualifiying importers will be given licenses based on a percentage of their 1940-41-42 imports, determined on the basis of customs entries.

(2) Domestic producers who distribute to consumers will be given licenses based on a percentage of their 1940-41-42 production.

(3) The domestic producers who distribute to consumers will be given additional licenses for additional quantities equal pound for pound to the rennet casein that they produced during the first six months of 1944.

Rules on Container Board Quota

Sheet plants which use containerboard will be permitted to accept corrugated or solid fiber sheets and charge them to the third quarter quota even though delivered after October 1, the War Production Board announced August 12. This action was taken by issuance of Direction 5 to Order M-290.

Sheet plants must have placed their certified orders with their suppliers, prior to September 20, provided they were entitled to do so under tonnage limitations imposed by their third quarter authorizations, WPB Paperboard Division officials explained. It is required, however, that the corrugated or solid fiber sheets which the plants accept be made from containerboard delivered or in transit to the sheet supplier prior to October 1, 1944.

The new direction supersedes requirements which forbade third quarter deliveries after the last day of the quarter, but in all other respects provisions of M-290 remain, it was pointed out.

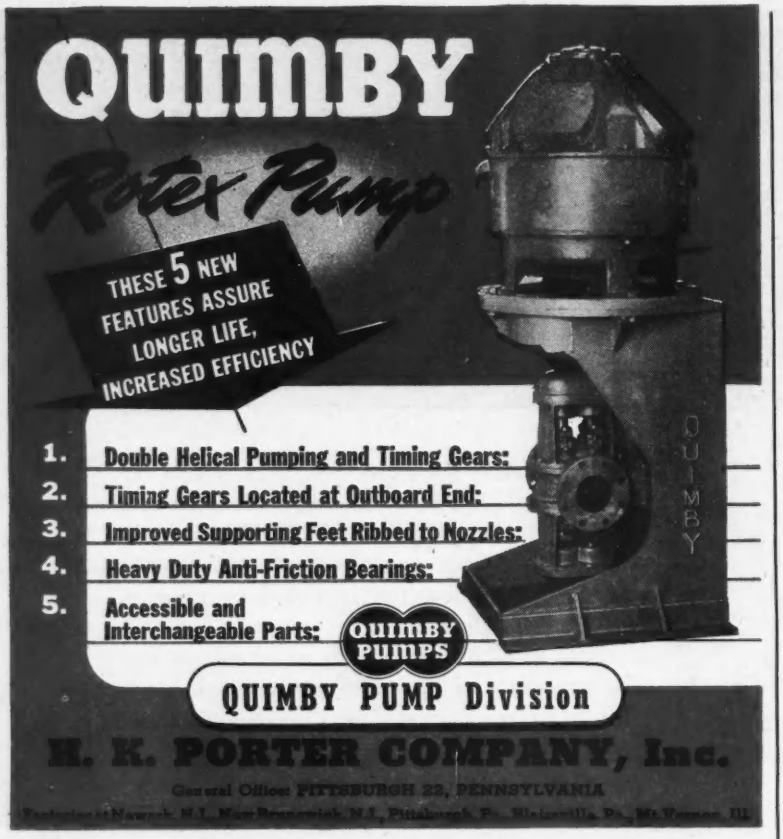
WPB officials believe the new provisions will remedy an injustice to the sheet plants and avoid blocking the production of shipping containers.

Maj. Christian Returns to U. S.

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., August 21, 1944—Major Clarence H. Christian, who has been associated with the Otter River Board Company, manufacturer of binders' board, for a number of years and was in England with the 9th Air Force for fifteen months, has just returned to the United States. While in England he participated in many combat missions over France and Germany and received a medal and an Oak Leaf Cluster. Passing his furlough at his home in Townsend, Mass., he leaves on September 1.

Diamond
Research Chemists and Development Engineers cooperate in the perfection of Diamond Products to meet industry's ever-changing requirements.
Through close teamwork of our field and development engineers, research chemists and manufacturing personnel, DIAMOND coordinates a variety of specialized technical skills in perfecting the service rendered to users of Diamond Products.
Thus any change in your requirements can be quickly and accurately provided through the close cooperation of the Diamond personnel and facilities.
ALKALI
DIAMOND ALKALI COMPANY
Pittsburgh, Pa., and Everywhere . . .


QUIMBY
Rotex Pump
THESE 5 NEW FEATURES ASSURE LONGER LIFE, INCREASED EFFICIENCY
1. Double Helical Pumping and Timing Gears:
2. Timing Gears Located at Outboard End:
3. Improved Supporting Feet Ribbed to Nozzles:
4. Heavy Duty Anti-Friction Bearings:
5. Accessible and Interchangeable Parts:
QUIMBY PUMPS
QUIMBY PUMP Division
H. K. PORTER COMPANY, Inc.
General Offices PITTSBURGH 22, PENNSYLVANIA

Harris-Seybold-Potter Co. Meet in Cleveland

On August 11 and 12 sales executives of the Harris - Seybold - Potter Company met in Cleveland at a conference called by H. A. Porter, Vice President in Charge of Sales. Announcement was made of the integration of Harris and Seybold sales under the direction of Mr. Porter. The new policy of integration of sales of the two divisions of the company brings J. C. Dabney, sales manager of the Seybold Division to the home office at Cleveland as assistant manager of sales of the company. Mr. Dabney will continue to be in charge of the sales of the Seybold Division, in addition to his new duties connected with Harris.

Mr. Dabney came with the company five years ago as Seybold Division sales manager. In this position he traveled extensively, contacting the trade throughout the country. He has a wide acquaintance in the industry and comes to his new position at the home office of the company with a background of understanding of graphic arts problems. During the war he has handled the contracts for the Division's war work. Prior to his affiliation with Harris-Seybold, Mr. Dabney had been a sales and marketing executive with the Standard Oil Company of Ohio, located in Cleveland.

The meeting was attended by the following sales executives in addition to Mr. Porter and Mr. Dabney: J. W. Valiant, vice president in charge of the Eastern District of the company — Wm. Guy Martin, vice president, Chicago, in charge of the Western District—Maynard L. Mann, manager of the Southern District with headquarters in Atlanta—Hedley Prout of Toronto, vice president and manager of Harris-Seybold-Potter Company (Canada) Ltd.—A. T. Walker, Central District manager —Glenn D. Baber, assistant sales manager of Seybold—Ren R. Perry of Chicago, manager of the Used Machinery Division of the company —A. S. Holford, Cleveland, sales manager of the Chemical Division—Louis R. Beck, sales promotion manager—and Horace R. Baker of the company's advertising agency.

Sales and marketing plans of the company were studied at length with the objective of rendering all possible service to printers and lithographers in the postwar period. Marketing and organization plans for the future were outlined. The growth of offset lithography as a printing method and offset's rapid expansion during the war period were discussed at length.

The interest displayed by printers throughout the country in offset lithography was viewed as forecasting further development. Printers and lithographers were given assurance that Harris-Seybold-Potter will enter the period ahead fully prepared and with a forward-looking program.

Paper Stocks Decrease

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., August 21, 1944 — No improvement has been seen in the last week in available paper supplies for civilian uses. In fact the last week has seen a slight decrease in stocks and manufacturers and jobbers are predicting that before the quarter ends there will be a further decrease.

However, there has been a decided improvement in collection of waste papers in this area. Newspapers and other publicity agencies continue to urge the housewives to save every scrap and the campaign finally is bringing results. Collections are below quotas for this area as yet, but when school begins it is felt there will be a further improvement as the school children, under the urging of their teachers, actually get into action. In the meantime mill buying of waste paper continued heavy with all grades at ceiling prices. Demand for all grades of rags is reported good with prices strong.

Building paper and roofing last week was in good demand. The volume, of course, is not nearly what it was before the war, but shows an increase over last year. Considerable repair work is being permitted and some new construction in smaller units is going on.

Container and box factories are working virtually to the limit of their manpower with large backlogs of orders. Most of the production is going into war uses, where priorities are in effect. Summer specialties continued in good demand last week with a scarcity of virtually all items. Paper towels, napkins, plates and other similar equipment is at a premium. Cleaning tissues also are scarce.

Demand for newsprint continued strong with all available stocks quickly picked up. Advertising lineage has shrunk somewhat largely because the papers are turning down space customers.

Must Not Destroy Waste Paper

BOSTON, Mass., August 21, 1944—Sumner Andrews, director of Industrial Salvage, who was formerly with the Monadnock Paper Mills in the Boston office, announced August 15 to the effect that business firms in the Greater Boston area who have been sending large quantities of waste paper to the dumps for destruction instead of to the salvage drive will be reported to local salvage committees for special action.

This action will be in accord with plans of the War Production Board, it was stated. Dump masters' or especially assigned volunteer workers' reports will result in visits by salvage chairmen to executives of the delinquent firms. Mr. Andrews said waste paper dealers will call for 500 pounds or more and for smaller quantities arrangements can be made with the committees.

"We have received many complaints of private concerns carelessly sending salvageable paper to the dumps to be destroyed," Mr. Andrews said, "but investigation has shown that in almost every case, the principal officers of the company involved were not aware of the conditions. In every case a leading official of the company agreed to correct the situation."

Plans V-Day Celebration

Louis Schulman, has started plans for a V-Day celebration which will blanket the entire United States.

Mr. Schulman, born in Germany 59 years ago, an American citizen now, about 5 feet 8 inches tall, clean-shaven, heavy-set, always smiling, is sending to 5000 of his friends from coast to coast right now a bottle of liquor cased in an attractive red, white and blue box with a huge card pasted on it saying: "Don't open till V-Day."

A letter is also attached. It says:

"The greatest day in our and our children's lives is going to be V-day. It cannot come too soon but it is coming faster and possibly sooner than most of us expect. On that day, I want all my friends to drink with me to victory and enjoy with me this greatest of all days. While I cannot be present in person, at least I want to be with you in spirit and drink to your health, happiness and the safe return of all of yours."

Mr. Schulman is president of Louis Schulman Company, Inc., paper converters of 465 Broome Street, New York City; president of A. S. Datz & Son, Inc., Philadelphia, Pa.; and president of Springfield Coated Paper Corporation, Camden, N. J.

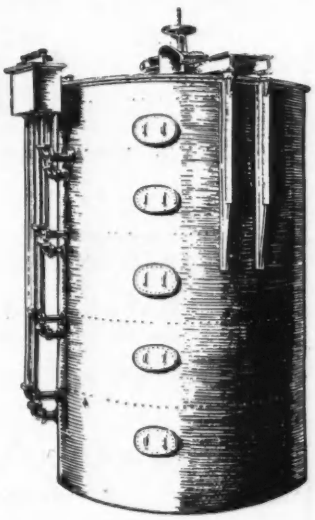
Zellerbach Paper Co. Changes

SAN FRANCISCO, Cal., August 19, 1944—The Zellerbach Paper Company announces the appointment of Ed. J. Hansen as sales manager of the printing paper department of the Los Angeles Division of the company. Allen R. Newmark, who formerly held this position, joins the headquarters administrative staff at San Francisco as assistant to Victor E. Hecht, vice president in charge of printing paper merchandising.

IMPROVE YOUR RECAUSTICIZING SYSTEM

with a

DORR WASHING THICKENER



- If you are not reburning lime and are worried about soda losses in your waste lime mud, or—
- You may be reburning lime and having trouble with the high soda content of your kiln feed.
- In either case the installation of a Dorr Washing Thickener alone or in series with an existing filter has attractive economic possibilities.

Blueprint Now! FOR TOMORROW'S NEEDS

● Write for a Dorr Engineer to show you how you might incorporate this equipment in your present flowsheet and improve the overall recovery of your recausticizing plant.

DORR — RESEARCH — ENGINEERING — EQUIPMENT

ADDRESS ALL INQUIRIES TO OUR NEAREST OFFICE

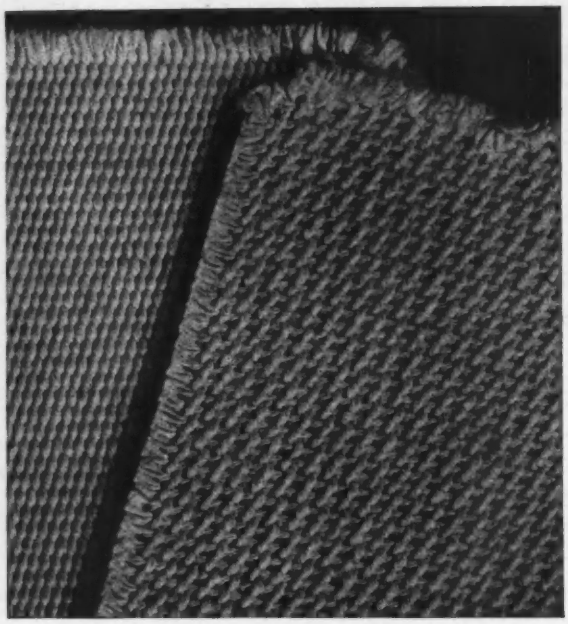
DORRCO

THE DORR COMPANY, ENGINEERS

NEW YORK 22, N. Y. 570 Lexington Ave. — CHICAGO 1, ILL. . . . 221 No. LaSalle St.
ATLANTA 3, GA. . . William-Oliver Bldg. — DENVER 2, COLO. . . . . Cooper Building
TORONTO 1, ONT. . 60 Richmond St. W. — LOS ANGELES 14, CAL. . 811 West 7th St.
RESEARCH AND TESTING LABORATORIES . . . . . WESTPORT, CONN.
SUGAR PROCESSING
PETREE & DORR DIVISION . . . . . 570 LEXINGTON AVE., NEW YORK 22

6305-9

BRANDON
DRYER
FELTS



Manufactured from the raw cotton to the finished felt

BRANDON EXTRA

TRI-UMPH all cotton, 3 ply 53 oz., widths up to 250".

ZEPHYR all cotton, 3 ply 45 oz., widths up to 196".

ZEPHYR cotton-asbestos 3 ply Face 50% asbestos, back open construction for high porosity. Widths up to 166".

HINDLE S/54 all cotton special weave. Extra heavy duty Preshrunk, high porosity, widths up to 170".

SCAPA-HALL S/46 and S/46A. Available after VICTORY.

Sole Sales Agents

WOODWARD, BALDWIN & CO.

117 W. Baltimore St.

Baltimore, 1, Md.

Representatives:

J. S. Harrington, Watertown, N. Y.
C. B. Smith, Kalamazoo, Mich.
Christian Co., Richmond, Va.
D. H. White, Standard Supply Co., New Orleans
Frank P. Wilder, Portland, Ore.
James A. Taylor & Son, Portland, Maine

BOOK PAPER COMMITTEE MEETS

(Continued from page 7)

papers for the purposes for which they were produced. Policing would be impossible.

It was quite generally admitted that the mills cannot continue to supply the quantities of paper permitted for the various end uses by the WPB limitation orders because of the ever increasing requirements for the military. But allocation of pulp for specific types of paper would complicate rather than relieve the situation.

Cites Distribution Problems

Mr. Boeschenstein emphasized the need for an equitable distribution of the industry's production. Government requirements, particularly the military requirements, must be filled first, and any production over that should be equitably distributed among the various civilian requirements. Mr. Boeschenstein pointed out that the recent order covering Government (Federal, State, and local) use of paper should effect some conservation. But war usage will continue to be measured by needs, and all mills should do their share in supplying these requirements. The industry should do everything possible to maintain production at the maximum possible on the basis of raw materials available.

Mr. Boeschenstein referred to complaints that certain segments are getting paper at the expense of other segments. The WPB is now making a study of the situation and will take the necessary action to correct any inequities which are brought to light.

Committee members expressed the opinion that at least 90% of the mills are supplying their contract agreements honestly and that the industry is conscientious in its effort to supply the various segments. Mills are not refusing to accept orders from regular customers so that they can divert production to more profitable items. If, after military and other Government requirements are supplied, production is not sufficient to cover the percentage quotas for the various end uses under limitation orders, then the most logical procedure would be to revise the quotas downward to the point where requirements and production would be somewhat in balance.

In the meantime, WPB should give wide publicity to the fact that the limitation orders provide a maximum tonnage that may be used, but do not guarantee that that amount will be available.

It was pointed out that in many instances, because of the reduction in basis weights of papers, customers are actually getting more paper, in terms of area, than during the base period.

Appoint Advertising Committee

Walter P. Miller, Jr., president, National Paper Box Manufacturers Association, Philadelphia, has just appointed a new advertising committee, for the association, which includes the management of the Master Craftsmen group, comprising about 50 setup paper box firms and suppliers, who jointly advertise the setup paper box industry in national magazines.

Heading this committee is Ralph L. Harden, sales manager, The Mason Box Company, Attleboro Falls. Other members of the committee are Charles K. Shaw, of Shaw Paper Box Company, Pawtucket; Oscar Carnevale, of Hope Paper Box Company, Providence and A. Dorfman, of A. Dorfman Co., Inc., New York.

FINANCIAL NEWS

New York Stock Exchange

High, Low and Last for Week Ending August 18, 1944

STOCKS

	High	Low	Last
A. P. W.	4¼	4	4
Armstrong Cork Co.	44	42¾	44
Celotex Corp.	15	14¼	15
Celotex Corp., pf.	18¾	18	18¼
Certain-Teed Products Corp.	6⅝	6⅛	6¼
Certain-Teed Products Corp., pf.	102⅞	95¼	100¾
Champion Paper & Fibre Co.	28	27	28
Champion Paper & Fibre Co., pf.	112	111¾	112
Congoleum Nairn Co.	28	27⅛	28
Container Corp. of America	26¾	25⅛	26¾
Continental-Diamond Fibre Co.	12	11¾	11¾
Crown-Zellerbach Co.	19⅞	19¼	19¾
Crown-Zellerbach Co., pf.	103	102	103
Dixie Cup Co.	17⅝	17⅛	17⅝
Dixie Cup Co., -A.	47⅞	47½	47½
Flintkote Co.	24¼	23½	24¼
Flintkote Co., pf.	...	...	...
Robert Gair	4¾	4⅜	4¾
Robert Gair, pf.	16⅝	16	16⅝
International Paper Co.	19⅝	18⅝	19⅝
International Paper Co., pf.	83	82½	82⅞
Johns-Manville Corp.	99⅛	97	99
Johns-Manville Corp., pf.	...	...	...
Kimberly-Clark Corp.	40	40	40
MacAndrews & Forbes	29½	29⅛	29½
MacAndrews & Forbes, pf.	...	...	...
Masonite Corp.	45½	44	45
Mead Corp.	11½	11	11½
Mead Corp., pf. A-6%	95⅞	95	95⅜
Mead Corp., pf. B-5½%	87	86½	86½
National Container Corp.	23⅝	22⅛	23⅝
Paraffine Companies, Inc.	57¼	57	57
Paraffine Companies, Inc., pf.	...	...	...
Rayonier, Inc.	17	15¾	16¾
Rayonier, Inc., pf.	31¾	31⅝	31⅝
Ruberoid Co.	33½	32	33½
Scott Paper Co.	42¾	42	42¾
Scott Paper Co., pf.	110	109⅞	110
Sutherland Paper Co.	33⅜	33⅜	33⅜
Union Bag & Paper Corp.	13	11⅞	13
United Paperboard Co.	6⅛	6	6
U. S. Gypsum Co.	79½	78½	79½
U. S. Gypsum Co., pf.	179	179	179
West Virginia Pulp & Paper Co.	26¼	24⅞	26¼
West Virginia Pulp & Paper Co., pf.	107	107	107

BONDS

Abitibi Pulp & Paper Co. 5s '53	86½	86	86½
Celotex Corp. 3¾s '55	103¾	103¾	103¾
Certain-Teed Products Corp. 5½s '48	102	101¾	101¾
Champion Paper & Fibre Co. 4¾s '50	...	...	...
International Paper Co. 6s '55	108	108	108
International Paper Co. 5s '47	103⅞	103¾	103¾
Mead Corp. 3½s '53	...	...	...
West Virginia Pulp & Paper Co. 3s '54	...	...	...

New York Curb Exchange

High, Low and Last for Week Ending August 18, 1944

STOCKS

	High	Low	Last
Great Northern Paper Co.	34⅝	34½	34⅝
Hummel-Ross Fibre Corp.	6⅝	6⅜	6½
St. Regis Paper Co.	6⅛	5¾	6⅛
St. Regis Paper Co., pf.	...	...	...
Taggart Corp.	...	...	...

BONDS

American Writing Paper Co. 6s '62	101	100	100

National Container Nets $1.78

The National Container Corporation for six months reports a net profit of $588,865 or $1.78 a share, against $391,625 or $1.09 a share, last year. June quarter net, $330,178 or $1 a share, compared with $186,486 or 56 cents a share for similar quarter a year ago.

West Virginia Votes Dividend

The West Virginia Pulp and Paper Company has declared a dividend of 45 cents, payable October 2 to stockholders of record September 15. Previous payment was 20 cents on July 1.

Great Northern Earns 94 Cents

The Great Northern Paper Company for six months, reports a net profit of $941,869 or 94 cents a share, against $650,793 or 65 cents a share last year.

Flintkote Profits Gain

The Flintkote Company and subsidiaries for the sixteen weeks ended July 15, reports sales $11,556,183, compared with $7,723,365 preceding period and $9,176,691 a year ago; net income $444,190 after taxes and charges, equal after preferred dividends to 41 cents a share on 951,608 common shares; preceding period $317,883 and 39 cents a share on 713,706 shares; year ago $235,705 and 25 cents a share; twenty-eight weeks' sales $19,279,548 compared with $15,374,946; net income $792,073 after taxes and charges, equal after preferred dividends to 71 cents a share; year ago $479,929 and 54 cents a share.

Eastern Corp. Earns $1.15

For the six months ended June 30, 1944, the Eastern Corporation had a net profit of $250,918 after all charges, including federal taxes of $167,000. After deducting preferred dividends the balance was equal to $1.15 a share on 213,008 shares of common stock. This compared with net a year ago of $155,034, after taxes of $104,000, equal, after preferred dividends, to 74 cents a share on 200,004 shares of common then outstanding.

Net sales were $4,422,790, compared with $4,421,380 last year.

National Container Profits Up

The National Container Corporation and subsidiaries, for the three months ended June 30, reports net income $330,179, after taxes and charges, equal to $1 a share on 330,482 common shares; preceding period $258,787 and 78 cents a share; a year ago $186,486 and 56 cents a share; six months' sales $8,801,298 compared with $6,129,127; net income $588,965, after taxes and charges, equal to $1.78 a share; a year ago $361,626 and $1.09 a share.

Union Bag Nets 63 Cents

The Union Bag and Paper Corporation for six months reports income of $795,354, or 63 cents a share, against $264,289, or 21 cents a share, last year; sales, $18,423,576, compared with $15,482,845. June quarter net, $372,118, or 29 cents a share, against $452,362, or 36 cents a share for June quarter of 1943; sales, $8,937,646, against $7,920,417.

Crystal Tissue Nets 34 Cents

The Crystal Tissue Company for the six months, reports a net income of $41,166, or 34 cents a common share, against revised net of $64,537, or 59 cents a share, last year. June quarter net, $20,727, or 17 cents a share, against $39,580, or 37 cents a share, for similar quarter a year ago.

S. D. Warren Co. Votes Dividend

BOSTON, Mass., August 14, 1944—A dividend of 50 cents per share has been declared payable September 1, 1944, to holders of record at the close of business August 19, 1944, of the common stock of S. D. Warren Company.

U. S. Envelope Earns More

The United States Envelope Company for six months reports a net income of $405,078, against $339,558, last year.

PAPER
TRADE JOURNAL
Title Reg. U. S. Pat. Off.
Henry J. Berger, Editor

COMING EVENTS IN PAPER INDUSTRY

NEW ENGLAND SECTION. Technical Association of the Pulp and Paper Industry—Third Friday of each month at the Roger Smith Hotel, Holyoke, Mass.

DELAWARE VALLEY SECTION. Technical Association of the Pulp and Paper Industry—First Friday of each month at the Engineers Club, Philadelphia, Pa.

LAKE STATES SECTION. Technical Association of the Pulp and Paper Industry—Second Tuesday of each month at the Conway Hotel, Appleton, Wis.

KALAMAZOO VALLEY SECTION. Technical Association of the Pulp and Paper Industry—First Thursday of each month at the Park, American Hotel, Kalamazoo, Mich.

CHICAGO PROFESSIONAL PAPER GROUP—First Monday of each month except July and August at Chicago, Ill.

FIBROUS MATERIALS SUPPLY

Demand for all paper making waste fibrous materials has been extremely heavy to meet the unprecedented requirements of this expensive war. The trend in mill receipts of major waste fibrous materials, which includes waste paper, rags, and other fibers, as rope and twine, has been upward since it began to rise in the latter part of April of this year, when total receipts for that month were 681,000 tons. The inventory position, on the other hand, has gradually deteriorated since the downward trend began in the latter part of January of this year. The total inventory figure in January was 757,000 tons and in April had declined to 740,000 tons.

In analyzing the supply situation of waste paper alone, receipts at mills began to rise about the middle of April of this year to reach a peak of 576,000 tons for that month, with consumption apparently at approximately the same tonnage. Inventories of waste paper moved upward in the middle of February and the trend has been maintained upward to date. The inventory figure for April was 278,000 tons, compared with 248,000 tons in January 1944. In commenting on the fibrous raw materials situation the Department of Commerce in its current report states in part that, the wholehearted efforts of industry and government in the past few months have increased the supply to a noteworthy extent.

In briefly reviewing the supply situation in waste paper, it may be noted that the trend of the increasing mill demand turned upward in response to the influence of the gradual tightening of the supply of wood pulp. Pressure for more and more waste paper for paper board has been strong for many months. The need for paper stock is as urgent today as it has been for some months. The general situation can be appraised by the inventory position. In February 1944, inventories were 50% below February 1943. The trend in receipts was still evidently upward in February of this year when collections of 541,000 tons indicated a rise of 2% over receipts of 532,000 tons in January, and 19% above receipts of 455,000 tons for February 1943.

The comprehensive and timely issued reports prepared by the Pulp and Paper Unit and the Forest Products Bureau of the War Production Board, published by the Department of Commerce, has accomplished a great deal to acquaint the industry and trade with the seriousness of the supply situation in all paper making fibrous materials which has prevailed, still exists, and appears must inevitably continue until the requirements of war decline. Collections averaging about 537,000 tons for the first two months of this year were far below requirements of 666,000 tons monthly to meet the 8,000,000 ton goal for 1944. Waste paper has become one of the vital raw materials, both for the war program and for civilian consumption, and collections of waste paper must be increased. Although the various drives to bring out more and more waste paper have produced good results, the Department reports points out that untapped sources must be discovered and utilized. Paper is so abundant and inexpensive a commodity that too large a proportion of Americans continue to destroy and neglect to conserve used paper, especially kraft paper bags and boxes. Early this year the Gallup poll indicated that nearly 9,000,000 households, or 25%, were uninformed of the need for salvaging waste paper. In commenting on this, the Department reports stated that if, as this poll reveals, only 53% of the people questioned were saving paper regularly for salvage, then there is tremendous loss of potential salvage in the remaining 47%, representing about 16,500,000 households. Coupled with those who were unaware of the salvage campaign, remedying the loss of collections from almost 26,000,000 homes may well be the answer to bringing collections up to the 666,000 ton monthly rate.

Business concerns of all types as well as households have contributed well to salvage campaigns. But, it appears that the nation has not been completely "sold" on the fact that the collection of all possible usable waste paper is a continuous process for the duration of the period of scarcity, and not merely to meet the requirements of the quotas named for any one drive. The department in an earlier report pointed out that there is a tremendous amount of "attic" and "cellar" paper to be salvaged. The Director of the Salvage Division of the War Production Board pointed out earlier in the year that the average book weighs about one pound, and one salvaged book could make two blood plasma containers or six "K" ration cartons, etc. These are vital items of production and their numbers depend upon the flow of raw material collections, which must be steady and large. May reports indicate that more waste paper was collected, but June collections are expected to fall off. Mill receipts for the first five months of 1944, including broke, aggregated 2,838,000 tons, compared with 2,470,000 tons in 1943, which included no broke from paper mills. Receipts

for May of 622,000 tons was under the average required by a substantial tonnage.

Summer collection figures are not yet available but receipts generally fall off in this period. The Boy Scout campaign will start the fall collection campaign and it may be able to enlist the cooperative efforts of more consumers of paper to salvage more of the better grades of waste paper, especially old books which are urgently needed in larger quantity. Although paper is generally in short supply paper board is more essential and this situation has prevailed for some months. This is indicated in the production of paper for May of 706,000 tons, compared with a five-month figure of 3,454,000 tons or a monthly average of 691,000 tons; paper board output for May was 779,000 tons, compared with a five-month output of 3,705,000 tons or a monthly average of 741,000 tons. More paper is needed but more paper board is required for essential uses and the trend in paper board production now exceeds that of paper and this trend is likely to continue until the total over-all requirements of paper board are more fully satisfied.

Brownville Co Cut Capitalization

WATERTOWN, N. Y., Aug. 21, 1944.—The Brownville Paper Company, Inc., A. Upham is president and James H. Lingenfelter secretary, is reducing the amount of its capitalization from $1,009,902.13 to $689,902.13 and the number of its shares of stock from 5,000 to 3,000.

As a result the holders of the eliminated 2,000 shares will receive a total distribution of $320,000 at the rate of $160 per share according to their holdings and this payment is to be made immediately with the retirement of the 2,000 shares.

Production Ratio Report*

(Production as per cent of six-day capacity)

COMPARATIVE WEEKLY SUMMARIES

Current Weeks—1944		Corresponding Weeks—1943	
July 8 (Holiday July 4)	53.8	July 10	66.2
July 15	91.1	July 17	90.2
July 22	91.3	July 24	90.1
July 29	92.7	July 31	90.8
August 5	90.7	August 7	89.5
August 12	*93.0*	August 14	92.4

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year Avg.
1943	87.2	88.9	89.5	88.7	91.4	84.8	84.3	91.0	88.3	89.6	89.6	82.0	87.8
1944	89.6	89.6	90.1	89.5	90.9	92.6	*81.7*						

COMPARATIVE YEARLY SUMMARIES

	1937	1938	1939	1940	1941	1942	1943	1944
Year to Date	87.4	68.2	78.7	87.0	94.0	94.2	88.0	*89.3*
Year Average	79.8	71.5	83.4	85.6	97.4	90.4	87.8	

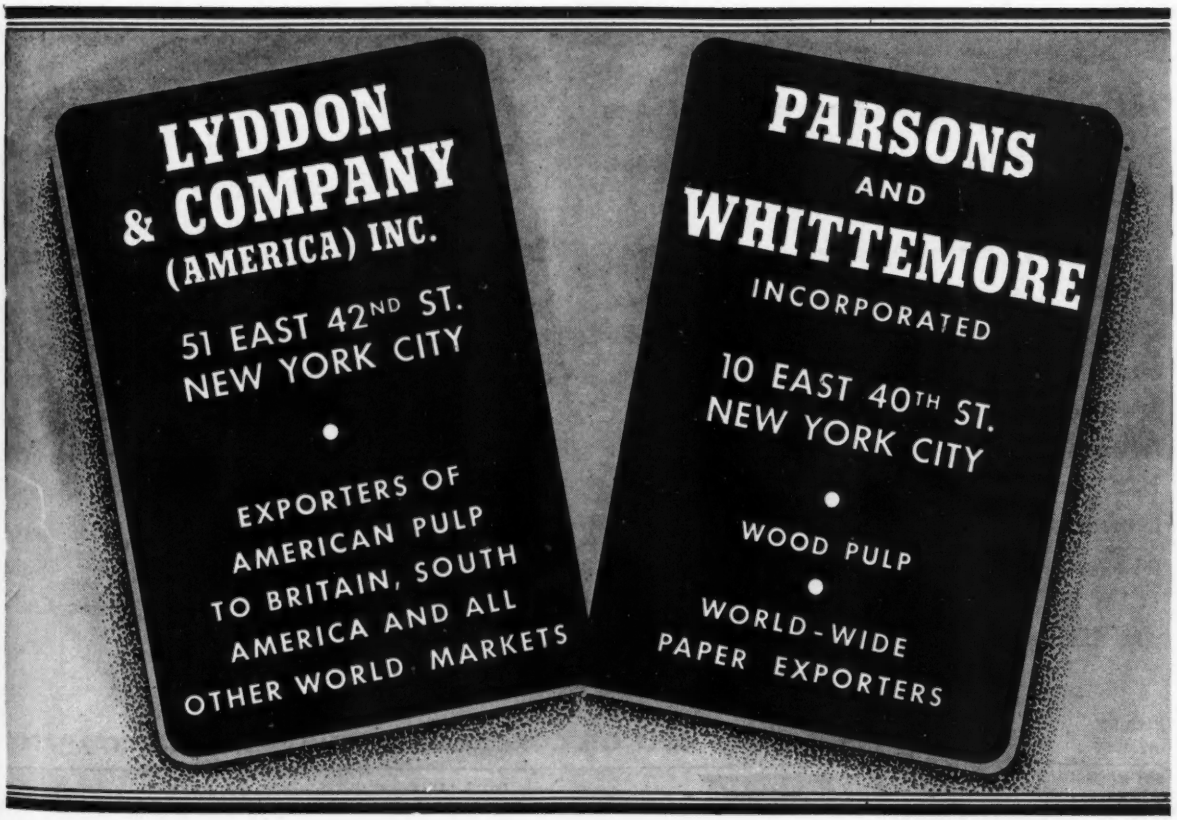
* Based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

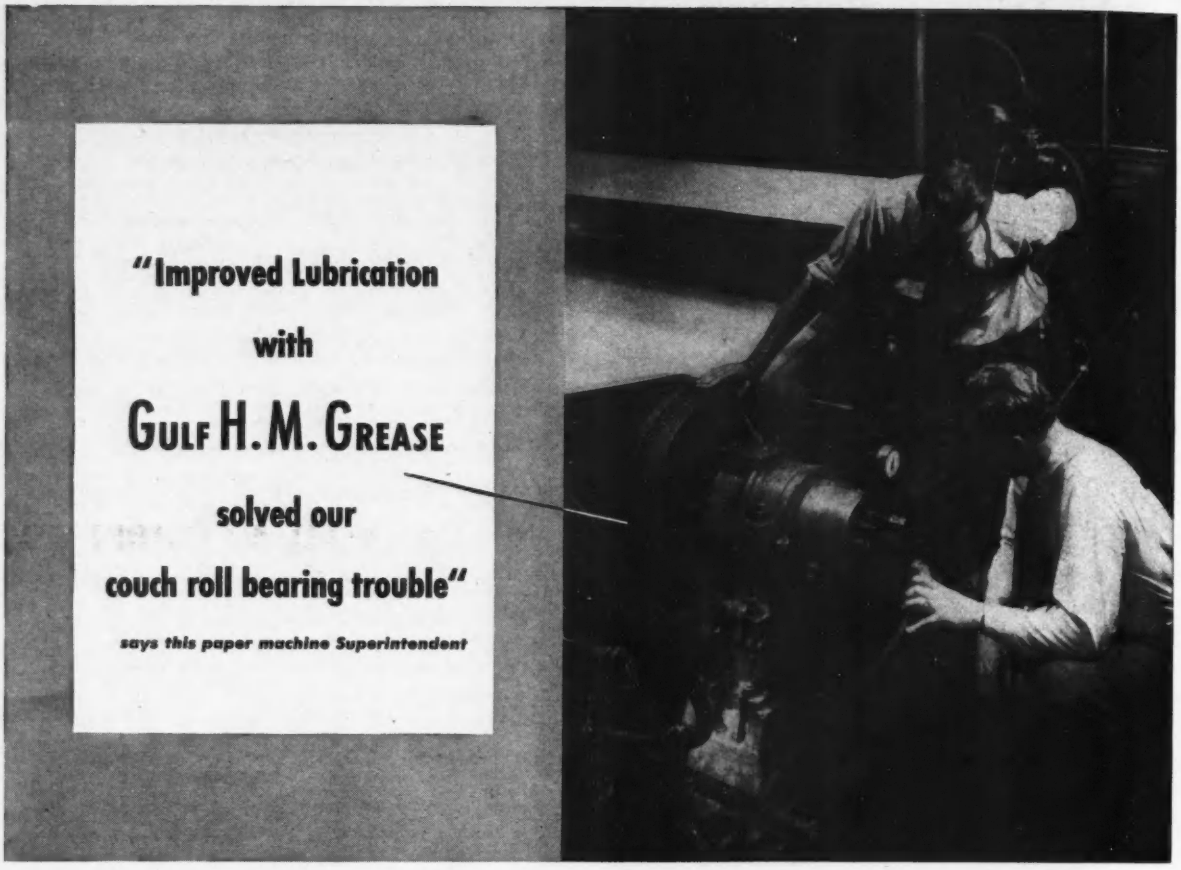
PAPERBOARD OPERATING RATIOS†

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year Avg.
19[illegible]	56	63	63	60	60	59	59	69	70	73	67	61	64
19[illegible]	65	73	76	74	69	73	68	77	82	91	88	77	77
19[illegible]	78	75	74	76	82	85	77	79	78	85	83	77	78
194[illegible]	81	88	89	89	91	94	92	98	95	99	98	90	92
1942	102	101	101	95	82	72	68	75	76	81	82	77	84
1943	86	88	94	94	96	94	89	96	94	94	93	87	93
1944	90	96	95	96	96	96	*85*						

Week ending July 8, 1944—60
Week ending July 15, 1944—91
Week ending July 22, 1944—94
Week ending July 29, 1944—96
Week ending Aug. 5, 1944—96
Week ending Aug. 12, 1944—96

† Per cents of operation based on "Inch-Hours" reported to the National Paperboard Assn.





Actual photo of a Gulf Service Engineer (right) consulting with paper machine Superintendent on the lubrication of couch roll bearings.

"And we're getting greater tonnage from our wires by following Gulf Engineering recommendations.

IMPROVED LUBRICATION of the wet end, as recommended by a Gulf Service Engineer, solved our couch roll bearing trouble and increased the life of our wires," says this paper machine Superintendent. "Use of the proper lubricant for every requirement, such as Gulf H.M. Grease for the couch roll bearings, has helped us get more tonnage and lower maintenance costs."

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Section of the
TECHNICAL ASSOCIATION
OF THE PULP & PAPER INDUSTRY
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High Frequency Heating*

By R. R. Baker[1] and C. J. Madsen[1]

Abstract

Inductive and dielectric heating are defined and a short discussion of the inductive process is presented.

The principles of dielectric heating are discussed and the basic equations for the determination of the varied factors required for a particular application are given. The loss factors and specific heat are listed for a number of materials. The spacing of the electrodes is given consideration.

The use of dielectric heating is of particular value in the processing of thick sections but the economic aspects must not be neglected in determining its application. Examples are given which indicate the possibilities and limitations of this type of heating in the paper and paperboard industry.

Electronics is already working in many phases of industry. A common definition is: Electronics is that science which applies devices in which the flow of free electrons through gases or a vacuum (as contrasted to their flow through conductors) is made to perform many intriguing, interesting, and useful duties and functions.

Electronic devices are today guiding paper on their rolls, controlling motor speeds, regulating voltages, controlling tension and loops, and protecting personnel and equipment in many plants.

They are supplying power for vital industries, analyzing chemicals, testing materials, and inspecting products with efficiencies, speed and precision hitherto unattainable.

Of all the phases and applications of electronics, the phenomena of high frequency heating is probably least understood by the average individual in its application to the great variety of industrial processes.

* Presented at the Annual Meeting of the Technical Association of the Pulp and Paper Industry, Hotel Commodore, New York, N. Y., Feb. 14-17, 1944.

[1] Westinghouse Electric and Manufacturing Co., East Pittsburgh, Pa.

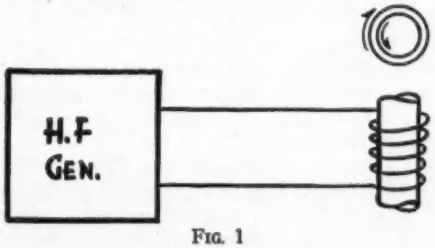

FIG. 1
Induction Heating

The wide publicity, and in many cases day dreaming based on limited technical knowledge has often overlooked the all important factors of economics and practicability. It is the purpose of this discussion to view soberly in the light of present technical knowledge, the over-all picture of high frequency heating applications in the paper industry. This should not create the impression that some of the present limitations will not be overcome, because this field of development is far from static.

High frequency heating has been a term applied to quite a wide variety of phenomena. It is a useful tool when properly understood and applied. High frequency heating can be divided into two main groups based on the method which is used to generate the heat in the work:

1. Heating by electro-magnetic induction referred to as inductive heating. (Useful in heating materials normally considered good conductors of electricity.)
2. Heating by applied varying electro-static stresses in dielectric materials referred to as dielectric heating. (Useful in heating materials normally considered poor conductors of electricity or good insulators.)

Inductive Process

In the inductive heating process, the material to be heated is generally metallic in composition and a reasonably good conductor of electrical current at conventional power frequencies. It does not appear necessary to go into great detail on this process, as it is not widely applicable to the paper industry, but a brief review is desirable.

Conventional power frequencies often can be and are used in inductive heating applications, however this discussion will be confined to high frequency applications.

In inductive heating, the work is placed in the electromagnetic field of a coil which may consist of one or more turns of copper wire or tubing (See Fig. 1). When this coil is connected to a suitable source of high frequency energy, large currents are made to flow through the coil turns. These currents, by transformer action, induce electrical currents in the work piece. Since all materials have some electrical resistance, these secondary currents produce heat in the work piece, based on the familiar electrical law that the rate of heat generation in watts is equal to the product of current squared times resistance ($W = I^2R$). The total heat generated in the material is of course equal to the product of the rate times the period of treatment, and can be expressed in convenient terms such as watt hours, B.t.u., calories, etc. The currents in the work piece can be controlled in a

number of ways, so that by proper choice of coil shape, size, and operating frequency, the heat can be generated in sections or portions of the work desired.

At this point it is desirable to further subdivide high frequency induction heating into two groups determined by the type of apparatus used to supply the high frequency energy, namely:

Rotating machine frequencies. (60-15,000 c.p.s.).

Electronic generator frequencies. (100,000-600,000 c.p.s.).

ROTATING MACHINES

Rotating machines can produce frequencies from a few cycles per second to about 15,000 cycles per second. Machines for higher frequencies have been made but generally are not considered practical from an industrial point of view. Electronic generators for induction heating generally operate at frequencies from 100,000 to 600,000 cycles per second. Technically it is possible to design and build electronic generators for frequencies comparable to those produced by rotating machines, but at present first cost is decidedly in favor of the rotating machine.

The choice of frequency is determined by the characteristics of the work. Frequently the job can be done almost equally well at frequencies within the range of either type of apparatus, hence the economic phase must be carefully considered, including first cost and operating cost. If the piece to be heated is large and deep heating is desired for operations such as forging, annealing, thick case hardening, etc., frequencies within the range of rotating machines will generally be found most suitable.

ELECTRONIC GENERATOR

For many brazing operations, thin case hardening and tempering, heating thin sections of metal and small parts, frequencies within the range of the electronic generator may prove advantageous. A typical example is the flowing of electrolytically deposited tin on tin plate to produce a smooth, homogeneous mirrorlike surface at speeds of over 1000 feet per minute. It is possible that inductive heating may find applications in the paper industry in the heating of the surface of large steel drums when temperatures above those conveniently available from low pressure steam or similar sources are desired.

Dielectric Process

The dielectric type of heating is useful in heating many materials normally considered nonconductors, materials such as wood, plastics, rubber, glass, porcelain, and paper. The frequencies used vary between 2 megacycles and 100 megacycles. In the dielectric heating process, the work is placed in a strong electrostatic field produced by a high frequency voltage. In its simple form, two metallic plates are separated from each other by a block of the material to be heated (See Fig. 2). The plates of this capacitor (formed by the combination of elements above) are connected to the terminals of a high frequency electronic generator. During one portion of the cycle, the upper plate may be charged positively and the lower negatively, stressing the atoms of the intervening material (commonly known as a dielectric) in one direction due to the strong electrical field. A half cycle later the polarities of the plates have been reversed, thereby reversing the atomic or molecular stress in the dielectric material. One common explanation of the resultant heating is that the continued distortion of the atoms or molecules in first one direction and then the other, causes friction between these particles. Since the field producing the stress is uniform throughout the thickness of a homogenous material the heating is uniform throughout. This makes this type of heating particularly useful when thick sections are involved.

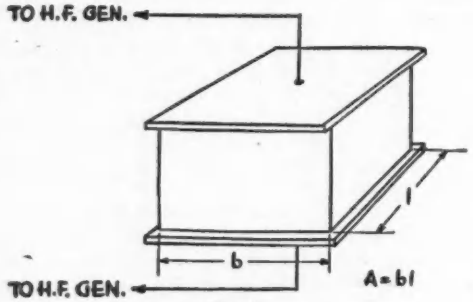

FIG. 2
Dielectric Heating

BASIC CALCULATIONS

The following mathematical equations provide a means of calculating the important electrical factors involved in a dielectric heating application. All the minute details involved will not be discussed but a few simple basic equations provide useful approximations. These equations are in themselves accurate, but do not take into account all factors involved in high frequency heating applications.

The amount of heat necessary to raise a given quantity of material through a given temperature rise, can be expressed in many ways. The actual final amount of heat energy required in the material is the same regardless of the source. A common unit of heat measure is the B.t.u. (British thermal unit). Heat energy in terms of B.t.u. can also be expressed in electrical units of energy, a common unit being the kilowatt hour (kw.-hr.). A common equation used in heat energy calculations is as follows:

$$Q = MKC\ (T_2 - T_1) \qquad (1)$$

For convenience these terms may be expressed in the U. S. system:

Q = number of units of energy
M = pounds of material to be heated
C = specific heat of the material
T_1 = initial temperature in degrees F.
T_2 = final temperature in degrees F.
$(T_2 - T_1) = \Delta T$, the temperature changes in degrees F.

If the factor K is 1, then the resultant Q is in terms of B.t.u. Since 1-kw.-hr. = 3413 B.t.u., the factor of $K = 2.93 \times 10^{-4}$ can be used, and the result will be in terms of kilowatt hours. This results in a conveniently useable formula:

$$Q = 2.93 \times 10^{-4}\ M\ C\ \Delta T \qquad (2)$$

Where:
Q = kilowatt hours (kw.-hr.)
M = pounds of material to be heated
C = specific heat of material to be heated
ΔT = temperature change in degrees F.

If Q is multiplied by $60/t$ where t is the period of time for the heating cycle expressed in terms of minutes, the result is the kilowatt output rating (W) of the generator required to produce the desired quantity of heat units.

When it comes to the application of these formulas to an actual high frequency heating problem, they should be considered as an approximation since heat radiation losses and other influencing factors are omitted. If the problem simply involves the heating

of a material a few hundred degrees above room temperature, it is a very useful approximation. On the other hand, if the temperature change involves a change in state of one of the components, such as boiling water or some other solvent, the latent heat of vaporization must be taken into account. The heat energy to convert water to steam (approximately 970 B.t.u. per pound) can be expressed in terms of kilowatt hours and is approximately 0.3 kw.-hr. per pound of water vaporized.

Thus $Q' = K' M'$ (3)
Where Q' = kilowatt hours (kw.-hr.)
K' = .3 for water
M' = pounds of water vaporized (per hour)

In drying problems, this factor may be much greater than the energy required to raise the material through the desired temperature change, hence must be added to Q obtained in equation 2, to provide a useful approximation.

With these approximations of the power required, the power that can be introduced into a material to be heated by the dielectric method should be studied. The research physicists have supplied a useful equation which from a practical application viewpoint is reasonably accurate. (The equation itself is correct, but the loss factor (e'') introduced cannot be measured with mathematical accuracy and is subject to considerable variation with variables such as temperature, moisture content, and commercial composition.)

$$W = 1.4 \times 10^{-12} V^2 f e'' A/d \quad (4)$$

Where
W = rate of heat energy generation in terms of watts
V = voltage applied to the material
f = frequency in cycles per second
e'' = loss factor of material
A = area in square inches (to which voltage is applied)
d = thickness of material in inches (See Fig. 2)

This equation can be expressed in another form which is often quite useful.

$$W/\text{cu. in.} = 1.4 \times 10^{-12} (V/d)^2 f e'' \quad (4a)$$

V/d is then an expression of the voltage gradient through the material heated (volts per inch).

In some applications all the above factors except V and f are known and more or less fixed. In others A and d are subject to some variation by arrangement of material or variation of application electrodes.

Loss Factor

The loss factor e is a function of the material, and can be measured by means of proper equipment. Loss factor of a given material is quite likely to vary over appreciable limits with frequency, temperature, moisture, etc., hence measurements must be made over a fair range of the expected variations in the process. A study of loss factor versus frequency, sometimes discloses an optimum frequency for heating a particular material. Generally, however, this maximum is quite broad, extending over a range of 5 or 10 megacycles. The following table gives the approximate loss factor and specific heat of a number of common materials:

TABLE I

Material	e'' 1 Mc	e'' 10 Mc	e'' 20 Mc	e'' 30 Mc	Specific Heat
Paperboard (soft)	..	.024	.026	.027	
Paperboard (hard)	..	.11	.12	.11	.4
Fiber	.25	...	...	...	
Porcelain	.04	.044	...	.06	.26
Oak (dry)	.09	...	...	...	
Birch (dry)	.32	...	...	...	.40
Hard rubber	.03	.017	...	.017	.33
Plastics:					
Phenol formaldehyde		.20 to .50			.30
Urea formaldehyde		.16 to .21			.40
Cellulose acetate		.03 to .45			.35
Cellulose nitrate		.43 to .62			.36

The frequency chosen for a particular application is influenced by several other factors, such as the area to be heated, how energy is introduced, practicability of oscillator or generator design, power, etc. In order to keep the voltage within reasonable limits, the frequency should be as high as practical. However, there are two factors that limit too much excursion in this direction, namely, voltage distribution and oscillator design. For a given electrode size, the higher the frequency the greater the probability of unequal voltage distribution over the area due to the effect commonly called "standing waves" by radio men. Several practical methods of minimizing this effect are available but some caution is desirable. If the longest dimension of the electrodes is a small fraction of a wavelength or if the work is scanned, this effect is minimized. However, the factor of generator design is not quite as simple. At present most of the vacuum tubes available were developed for conventional radio service. Some of these tubes must be operated at reduced power when used in very high frequency oscillator circuits. Even circuit design has considerable affect on the efficiency of tube operation at higher frequencies.

From a practical viewpoint, at the moment it appears undesirable to use frequencies above 20 megacycles when powers of above about 10 kw. are involved. Fortunately satisfactory performance in many applications is obtained with frequencies in the region of 2 to 15 megacycles. This range of frequencies is also satisfactory for the size of electrodes required for most applications.

Spacing of Electrodes

The spacing d of the electrodes in Fig. 2, is also important and inter-related in the final analysis of an application.

If the dimension d is uniform throughout the area A (assuming V is uniform and material is homogeneous) then uniform heating throughout the area and volume of material between the electrodes is obtained. Note however that if d varies, then the heat generated per unit of time varies inversely with the thickness and uneven heating in the material will result. The thinner sections will be heated more rapidly than the thicker portions. For this reason, it is desirable to have the work uniform in thickness, and reasonably homogeneous.

There are methods which can be applied to assure uniform heating of certain types of nonuniform thicknesses. If the work is of such a shape that two pieces of work can be placed in complementary positions, and the resultant thickness be uniform, the material will heat evenly. For example, two wedge-shaped pieces may be placed together to form a rectangular cross section of uniform thickness. Also the electrodes may be spaced away from the material to be heated, at its thinnest section, and be in contact with the material at its thickest point. This method is somewhat tricky, and if possible should be avoided in a production set up.

One further consideration of thickness is the factor of voltage breakdown. It is rather obvious that too much voltage across a piece of material may puncture the material. Two methods are employed to reduce this hazard; the voltage may be reduced or the thickness increased. The voltage may be arbitrarily reduced and the resultant slower heating accepted. The frequency may be increased, and the factor V^2 reduced in proportion thus maintaining the desired rate

of heating. On the other hand, perhaps the work may be stacked so that several times the original thickness is obtained, thereby reducing or eliminating the possibility of voltage rupture. For a given power input, the rate of heating per piece of work is reduced in proportion to the number of pieces stacked, but the total production will be increased in this same proportion so that the desired production can be obtained with less hazard.

Ordinarily the voltage across the work should be kept under 15,000 volts. It is not impossible to use voltages above this, but the additional precautions necessary to avoid corona and arc-overs are often more expensive than some other compromise of the engineering factors. The voltage gradient, that is, the voltage per inch permissible across the material varies widely with the type of material. The radio frequency voltage which will puncture a given dielectric material, is generally much lower than the 60 cycle voltage which a material will stand. Hence it is desirable to keep the voltage gradient below 2000 volts per inch on porous materials, and less than 5000 volts per inch on the less porous materials, whenever possible.

Use of Dielectric Heating

Dielectric heating is particularly useful in heating materials of thick section, materials which may take several hours to heat by means of surface heating due to their limited thermal conductivity or to their thick section. Here the factors, economic as well as engineering, favor the application of dielectric heating.

From the practical side, there are other factors that must be considered, such as radiation, factory space, cost per B.t.u., production costs, and production volume, etc. These all vary so much with the individual application, that each problem should be studied by itself rather than trying to apply general statements that may be at considerable variance with the facts, for a particular application. One thing of importance, however, that should not be overlooked is the fact, that while energy produced electronically is relatively expensive in terms of cents per kilowatt hour, that energy can be concentrated in the material to be heated, and the final product may be considerably superior. Perhaps a drastic reduction in rejects may offset the higher cost. Hence, the overall result must be weighed carefully when comparing high frequency heating with other methods.

Application Examples

In order to illustrate the factors that must be considered in a particular problem, the following hypothetical examples serve to provide the problems that must be solved in a possible dielectric heating application.

While the first example is not a typical paper industry problem, it does illustrate the steps in the simple type of problems often encountered in dielectric heating.

Paperboard

Assume that a manufacturer wishes to heat sheets of heavy paperboard, and the following factors are given:

Size of sheets	4 ft. x 8 ft. x 5/8 in.
Density	60 lb. per cu. ft.
Required production	10 sheets in 15 min.
Initial temperature	100° F.
Final temperature	300° F.
Specific heat	0.4

In order to obtain an approximation of the power required, it is necessary to know the factors in equation 2, namely: M, C, T_1 and T_2. Knowing the density of the material, and the volume to be handled, the mass M can be determined.

Hence the following factors are available from data submitted or calculations:

$M = 100$ lb.
$t = 15$ min.
$C = 0.4$
$T_1 = 100°$ F.
$T_2 = 300°$ F.

Substituting in (2)

$$Q = 2.93 \times 10^{-4} \times 100 \times 0.4 \times 200$$
$$Q = 2.34 \text{ kw.-hr.}$$

Since this is to be heated in 15 minutes, the rating of the generator will be $2.34 \times 60/15$ or 9.36 kw.

The material was essentially dry prior to heating, so there is no moisture or solvent to be evaporated. Hence, latent heat of vaporization can be omitted. It appears desirable to use a standard 10 kw. or 10,000 watt unit.

Next the voltage should be checked to be sure it is safe and reasonable by use of equation 4. It is necessary to know e'' and f, since A and d are fixed by the dimensions of the material being treated, and a standard 10 kw. unit seemed desirable, establishing W.

The loss factor e'' can be measured, hence only f remains to be determined. Suppose that f be assumed to be 7×10^6 cycles. If the results are not satisfactory, some other value of f may be tried. On large sheets, it is desirable to keep the frequency (f) low, so as to minimize the possibility of uneven heating due to irregular voltage distribution.

There are several choices of d however, using the sheets singly or by stacking. For the moment consider heating two sheets at once with the "hot"* electrode between two sheets. The two outer electrodes can be maintained at ground potential with this arrangement. Half the power will go into each sheet, so that voltage calculations can be based on half the generator rating. Thus:

$$W = 5000 \text{ watts } \left(\frac{10000}{2}\right)$$
$f = 7 \times 10^6$ cps
$e'' = 0.08$ (from measurements)
$A = 4608$ (4 × 8 × 144)
$d = 5/8$

and substituting in (4) and solving for V

$$V^2 = \frac{5000 \times 10^{12} \times .625}{7 \times 10^6 \times 0.08 \times 4608 \times 1.41}$$
$$V^2 = 85.6 \times 10^4$$
$$V = 9.25 \times 10^2 = 925 \text{ volts}$$

This appears satisfactory from the theoretical angle as the voltage gradient is only 925/0.625 or 2000 volts per inch.

Processing. The two sheets will be heated in 3 minutes, since the energy rate is sufficient to heat ten sheets in 15 minutes. However, heating only two sheets at a time involves heating five groups of sheets, and appears undesirable from the standpoint handling. Perhaps it would be possible to heat several sheets at once.

Suppose that all ten pieces are stacked and heated at once, five on each side of the hot electrode. The thickness d now becomes 3⅛ inches.

$$V^2 = \frac{5000 \times 10^{12} \times 3.125}{1.41 \times 7 \times 10^6 \times 0.08 \times 4608}$$
$$V^2 = 428 \times 10^4$$
$$V = 20.7 \times 10^3 = 2070 \text{ volts}$$

This is also satisfactory. The voltage gradient now

* Hot—above ground potential.

is only 2070/3.125 or 660 volts per inch, and all sheets are heated simultaneously, hence less handling time in inserting and removing the material from the electrodes. Perhaps there are other influencing factors in the succeeding processes that may make it desirable to use some other combination of loading. The two combinations investigated are both satisfactory from the theoretical heating and voltage angles. Any combination between these limits will be satisfactory as long as the load is kept equal on both sides of the hot* electrode. Also the voltage gradient is sufficiently low to indicate that higher power may be safely used if a higher production rate is desired.

From the practical viewpoint and from experimental tests, it may be found that the sheets adjacent to the grounded electrodes may not reach the desired temperature due to heat loss to the electrodes. No heat is generated in these electrodes by the dielectric heating process. This heat loss can be reduced by introducing a layer of heat insulating material between the electrode and the material to be heated. This material will absorb some of the electrical energy, hence must be included in a complete analysis. Another method would be to heat these outer electrodes by steam or other means to eliminate this heat loss. By this means the process could probably be speeded up as well, as heat radiation losses from the material would be offset by heat obtained from these heated electrodes.

Cost. Now for the economic analysis: Here are a few figures for cost of high frequency power. They are approximate only, but are based on 60 cycle power at 1c per kw.-hr. and include tube replacement, maintenance and amortization of equipment.

Rating of equipment (kw output) ..	2	5	10	20	50	100
Cost of H.F. energy per kw.-hr, $..	.06	.05	.038	.035	.034	.031

In the example above 10 kw was used for 15 minutes which results in a total use of 2.5 kw.-hr. of radio frequency energy. From the table this power would cost 0.038 per kw.-hr., hence the energy cost is 6¼ cents for the ten pieces or $.000195 per square foot of paper board. Actually, since no allowance was made for radiation and other losses, the cost would probably be 10% to 20% higher than calculations show. These costs do not appear unreasonable.

Paper

Here is another type of problem. Suppose it is desired to reduce the percentage of moisture in a strip of paper 4 feet wide by 0.004 inch thick running at 1000 feet per minute. This paper has a moisture content of 20% and is to be dried to a moisture content of 5% or less. The density (moisture free) is 52 pounds per cubic foot and the specific heat is 0.4. The sheet must be raised 12°F. in temperature, therefore $T_2 - T_1 = 12°F$. The paper must not rub the electrodes and may have a normal deviation of plus or minus ¼ inch from its mean position in its travel between the electrodes.

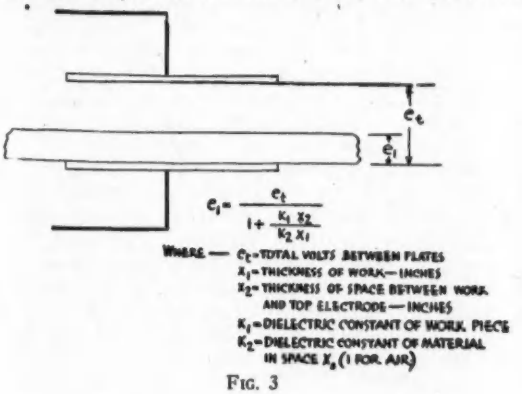
e_t
e_1
$e_1 = \frac{e_t}{1 + \frac{K_1 X_2}{K_2 X_1}}$
WHERE — e_t = TOTAL VOLTS BETWEEN PLATES
X_1 = THICKNESS OF WORK — INCHES
X_2 = THICKNESS OF SPACE BETWEEN WORK AND TOP ELECTRODE — INCHES
K_1 = DIELECTRIC CONSTANT OF WORK PIECE
K_2 = DIELECTRIC CONSTANT OF MATERIAL IN SPACE X_2 (1 FOR AIR)

Fig. 3

Consider first the paper only:

$$M = 1000 \times 60 \times 4 \times \frac{.004}{12} \times 52 = 4160 \text{ lb. per hour (moisture-free basis)}$$

$$C = 0.4$$
$$T_2 - T_1 = 12° \text{ F.}$$
$$Q = 2.93 \times 10^{-4} \times 4160 \times .4 \times 12$$
$$Q = 5.86 \text{ kw.-hr. (19,400 B.t.u.)}$$

Now for the water to be evaporated. The initial weight of water and paper is equal to 4160/0.80 = 5200 pounds. The final weight of water and paper must be 4160/0.95 or less, (4380 pounds). The weight of water to be removed is 5200 — 4380 or 820 pounds per hour.

For the latent heat of vaporization: (equation 3)

$$Q' = 0.3 \times 820$$
$$Q' = 246 \text{ kw.-hr. (840,000 B.t.u.)}$$

There are also 1040 pounds of water that must be raised 12°F in temperature. This represents 12,480 B.t.u. or 3.7 kw.-hr.

Therefore, the total energy required for each hour of operation is 5.86 + 3.7 + 246 or approximately 256 kw.-hr. At 3c per kw.-hr. which is the cost of high frequency energy obtained from the tabulation, the 256 kw.-hr. would cost $7.68 or $.0018 per pound of final product, which does not include possible radiation losses, etc. Since the calculations were based on an hour's production, the generator rating will be 256 kw.

Voltage. So far, however, checks as to voltage, electrode area or frequency have not been made. Ignoring the air gap between the electrodes and the paper for the moment, a few assumptions will assist in determining the possibility of introducing the required power into the material with a practical voltage and electrode area.

Assume:
An electrode area of 4 feet (the full width of the paper) × 15 feet (a possible permissible length)
A frequency of 10 × 10^6 cps.
Measured loss factor 0.15 initial when damp
Then:
By substituting in equation (4) and solving for V:

$$V_2 = \frac{256{,}000 \times 10^{12} \times .004}{1.4 \times 10 \times 10^6 \times .15 \times 4 \times 15 \times 144}$$
$$V_2 = 5.65 \times 10^4$$
$$V = 2.38 \times 10^2 \text{ or } 238 \text{ volts,}$$

which does not appear excessive until it is expressed in terms of volts per inch. The actual voltage gradient in this case is 238/0.004 or 59,500 volts per inch, a gradient which is prohibitive through damp paper.

There isn't very much that can be done to help this situation. The electrode length of 15 feet is so long that considerable voltage variation will exist between the ends. However, since the material is passing through this variation in field, (being "scanned") the material will all be subject to the same heating although the rate of heating will vary with position along the electrode. Doubling the length will only reduce the voltage by $\sqrt{2}$ so that little gain can be obtained by that means. If an attempt to go higher in frequency is made, a limitation in the high frequency generator design is soon reached. Even though such a generator could be obtained for 256 kw. at 30 × 10^6 cycles, this would only reduce the voltage by the $\sqrt{3}$ which is still excessive.

These results indicate that this example represents an undesirable application, however, it is desirable to go one step further, simply because the next phase in calculation often appears in problems involving thin paper. So far throughout this paper, it was assumed that the electrodes were in effect in contact with the work. In this problem however, the paper was not to touch the electrodes. The deviation of the paper was given as plus or minus ¼ inch resulting in a total deviation of ½ inch and to this something must be added for clearance. Assume this clearance to be 1/16 inch per side or a total of ⅛ inch. The total electrode spacing is therefore ⅝ inch.

The net result is in effect the condition shown in Fig. 3, a capacitor in which the dielectric is composed of two materials, damp paper and air. The potential distribution is conveniently expressed by the equation:

$$e_1 = \frac{e_t}{1 + \left(\frac{K_1 X_2}{X_1 K_2}\right)} \quad (5)$$

Where e_1 = voltage across lower dielectric (paper)
e_t = total voltage between electrodes
K_1 = dielectric constant of lower dielectric (paper)
K_2 = dielectric constant of upper dielectric (air)
X_1 = thickness of upper dielectric (air)
X^2 = thickness of upper dielectric (air)

Note: X_1 and X_2 can be expressed in centimeters or inches as long as both are in the same terms.

K_1 and K_2, the dielectric constants are often called specific inductive capacity, and can be measured when a material is not listed in a handbook.

In this problem the following terms are given:

e_1 = 238 volts
K_1 = 4 (paper varies quite widely with moisture but can be measured)
K_2 = 1 (air)
X_1 = 0.004 inch (thickness of paper)
X_2 = 5/8 — 0.004 = 0.621 inch (total air space)
e_t = to be determined

Substituting in (5) and solving for e_t

$$238 = \frac{e_t}{1 + \left(\frac{4 \times 0.621}{1 \times 0.004}\right)}$$

$e_t = 238 \times 622 = 148{,}000$ volts

This voltage is far beyond the reasonably safe values that can be handled in industrial equipment, hence in the particular example chosen, it will be noted that the application of high frequency heating is impractical.

This type of problem was submitted in order to bring attention to the reason electronic engineers so often object to large air gaps in a possible high frequency dielectric heating application. Please do not misconstrue this to mean that air gaps cannot be tolerated in these applications. It is perfectly satisfactory in some cases, when the air gap is small compared to the thickness of material to be heated, and the power involved is not too high. The loss factor of air is practically zero, so little if any electrical energy is lost in the air gap, but it does increase the voltage which must be applied to the electrodes; hence, should be avoided if possible.

Equipment

There are many methods and devices used to apply dielectric heating potentials to the material to be heated. Ordinarily one electrode is maintained at ground potential. In this way, a conveyor belt of metal, stationary plates, rollers, etc., can be used as one side of the circuit. Good electrical contact and liberal area of conductors should be used throughout. Shielding of the high potential high frequency leads should be used whenever possible. The electrodes and associated circuits should be enclosed in a grounded copper, copper sprayed steel, or aluminum shield. In some cases, it may be necessary to shield the complete installation.

The generator circuits proper should be in a metal cabinet which serves as a shield. These precautions are necessary for two reasons: First, for the safety of personnel for protection from accidental burns; and second, to minimize interference to radio communication services. As a matter of safety the electrodes must be isolated from power frequency or high d.c. voltages of the electronic high frequency generator by suitable design of these generator circuits.

Radio frequency voltages are not dangerous to life. Currents of radio frequency and high voltage can be carried by the body with only a slight sensation of warmth, provided good contact is established. On the other hand either poor contact or interruption of the circuit may result in an intense arc, the heat of which can produce a serious burn.

In summarizing, note that high frequency heating is a very useful tool, all applications of which have not been explored as yet. It cannot supplant all other types of heating, but it is useful where other types of heating are inadequate. The heat generated by this method is not cheap, although its cost may frequently be justified. With this method of heating the heat may be properly localized as required. This method of heating frequently results in increased production, improved product, less defective material and fewer rejects.

All applications should be carefully analyzed and studied both from an engineering and an economic viewpoint. Equipment should be selected which is dependable, of adequate rating and properly shielded. It should include protective devices for the safety of personnel and equipment.

The entire field of electronics of which high frequency induction and dielectric heating are parts, can be considered as a new tool suitable for the use of general industry. Although a comparatively new tool it is one which has already been thoroughly tested and successfully applied to many industrial applications. Bear in mind however, that this tool is not a cure-all and requires careful consideration.

J. D. Brown Goes With Sprout Waldron

J. D. Brown has resigned from Canadian International Paper Company, where he held the position of groundwood superintendent of the Three Rivers Division, to take over the work of chief engineer of the Pulp and Paper Division, for Sprout Waldron & Co., Muncy, Pa., manufacturers of refining equipment for the pulp and paper and allied industries.

Mr. Brown is an ex-cadet of the Royal Military College of Canada and a graduate of the University of Toronto with the degree of B.Sc.F. in 1924. Shortly after graduation, he entered the field of pulp and paper and has been connected with it since that time.

Mr. Brown has been an active member of the Technical Section of the Canadian Pulp and Paper Association before which he has read several important papers over the past ten years. In 1942 he received the Weldon gold medal for the best contribution to the Technical Section for the period—"Studies in Classification and Refining of Groundwood Pulp."

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Prepared by Clarence J. West, Chairman, Committee on Abstracts and Bibliography, TAPPI

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Rust Engineering Co. Joins TAPPI

The Rust Engineering Company, Pittsburgh, Pa. and Birmingham, Ala. has recently become a member of the Technical Association of the Pulp and Paper Industry. This company, founded in 1905 has specialized in engineering, design, and construction of complete industrial plants and facilities, and has been closely associated with the development of the paper industry in the South.

Together with its service to paper manufacturers, the Company in the past decade has greatly expanded its activity in the chemical industry, particularly in the design and erection of process installations. From the time of its organization, the generation of steam and electric power has been a major interest of the Company, and from the design of these facilities for industrial plants developed a field involving the entire manufacturing process.

The company is now engaged in the design and construction of the extensions of the Union Bag and Paper Corporation plant at Savannah, Ga., involving the installation of new steam and power generating facilities and the addition of auxiliary production units. The company also has been retained by other clients to prepare preliminary plans, reports and estimates and for a number of new projects for the paper manufacturing field, to be constructed as soon as conditions permit.

The Rust Engineering Company has previously constructed complete pulp and paper mills for Crossett Paper Company at Crossett, Ark., Chesapeake-Camp Corp. at Franklin, Va., Rayonier, Inc. at Fernandina, Fla., Hollingsworth & Whitney Company at Mobile, Ala., the Flintkote Company at Meridian, Miss., and Florida Pulp and Paper Company at Pensacola, Fla.

Plant additions, facilities and installations have been executed by Rust for such manufacturers as International Paper Company at Panama City, Fla., Bastrop, La., and Moss Point, Miss.; for Gulf States Paper Corporation at Tuscaloosa, Ala.; West Virginia Pulp and Paper Company at Covington, Va.; Union Bag and Paper Corporation at Savannah, Ga.; Chesapeake Corporation, West Point, Va.; Hummel-Ross Fibre Corporation, Covington, Va.; St. Helens Pulp and Paper Company, St. Helens, Ore.; Puget Sound Pulp and Timber Company, Bellingham, Wash.; and Longview Fibre Company, Longview, Wash.

The company has served as one of the major designers and constructors of plants and facilities for the war effort. This work included a number of important processing plants for explosives, chemicals, synthetic rubber and rayon, as well as Naval and War Department projects, ordnance plants, power plants, and many types of buildings and installations for the metallurgical, ore treating, coal and machine industries.

The company maintains complete facilities at both Pittsburgh and Birmingham offices with a permanent engineering staff of process, mechanical, electrical, civil, architectural engineers, and specialty engineers.

TAPPI Notes

The Maine-New Hampshire Group of the Technical Association will meet jointly with the Northeastern Division of the Superintendents Association at the Poland Spring House, Poland Spring, Maine on September 14-16, 1944. The TAPPI program will consist of round table discussions on Postwar Problems as Related to the Technology of the Industry, including pulp mill practices, papermill practices, pulp mill byproducts and stream improvement.

Robert E. March, formerly student at the Institute of Paper Chemistry is now chemical engineer for the Gaylord Container Corporation, Bogalusa, La.

Herbert L. Thompson, formerly chief chemist, Nashua River Paper Company, is now technical director, Louis Dejonge Company, Fitchburg, Mass.

Michael S. Schenk, formerly with the Commercial Paste Company, Columbus, Ohio, is now with the Certified Products Company, 2624 W. Taylor street, Chicago, Ill.

Stewart Neuville has been transferred from the Fairmont, Minn., to the Appleton, Wis., mill of the Kimberly-Clark Corporation, as development engineer.

W. O. Stauffer, formerly of the Remington Arms Corporation, is now senior group leader, Peroxygen Products Div., Electrochemical Dept., E. I. du Pont de Nemours Company, Niagara Falls, N. Y.

J. L. Renehan, formerly of the Reynolds Metals Company, is now in the New Products Research and Development Div. of the Union Bag and Paper Corporation, Woolworth Bldg., New York, N. Y.

Tom O'Flynn, formerly of the Wardlow-Thomas Company, is now manager and superintendent of the Puerto Rico Pulp and Paper Corporation, 55 Allen street, San Juan 12, P. R.

The TAPPI Bibliography of Papermaking and U. S. Patents was recently issued to members of the Technical Association. Technical Association Papers is in the press and should be distributed late in September. Manpower shortages at the printing plants has delayed the publication of both of these bound volumes. Technical Association Papers will run well over 830 pages this year, the largest volume that has been printed by the Association.

The membership of the Technical Association has passed well beyond the 2000-mark, not including the large number of members who are in the Armed Services.

The TAPPI Empire State Section will meet at St. Catherines, Ont., (Welland House) on September 1-2, 1944. This meeting will be held jointly with the N. Y.-Canadian Superintendents and the Niagara Div. of the C.P.P.A. Technical Section.

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60 East 42 Street
New York, N. Y.

New York Paper and Pulp Market Review

Tighter All-Over Paper Market Is Expected In Future Comparable To Tight Board Supply In Past—More Pulp Is Needed For Military Use — New and Old White Rags and Paper Stock Active.

Office of the PAPER TRADE JOURNAL,
Wednesday, August 23, 1944.

Civilian supply of paper is expected to further tighten as government agencies stress the heavy and not fully satisfied requirements for all government purposes. Concern about an equitable supply to meet civilian demands is reflected in most reports received this week from many manufacturers' representatives, jobbers, and general paper merchants. The most recent limitations in paper includes M-380 which prohibits the use of moisture barrier materials except for the armed forces; places paper milk containers under regulation, because of the acute wood pulp shortage in L-239-al; and limits usage of paper of all government units, other than the U. S. Government, using more than a ton of paper yearly or purchasing more than $1,000 worth of printing a year, to 75% of their base tonnages.

Paper production for the week ended August 12 was estimated at 93.0%, compared with 92.4% for 1943, with 77.5% for 1942, with 99.0% for 1941, and with 84.6% for the corresponding week for 1940.

Paper board production for the week ended August 12 was 96.0%, compared with 98.0% for 1943, with 73.0% for 1942, with 92.0% for 1941, and with 73.0% for the corresponding week for 1940.

Total production of paper, all grades, for the first half of 1944, reported by the Department of Commerce, was 8,620,000 tons, compared with 8,505,000 tons for the first half of 1943, an increase of 1.3%.

Wood Pulp

Production of wood pulp, all grades, for the first half of 1944, states the Department of Commerce, totaled 4,972,000 tons, compared with 4,675,000 tons in the like period in 1943, an increase of 6.4%; imports for the period totaled 535,000 tons, a decrease of 13.8%; exports totaled 103,000 tons, compared with 136,000 tons for the first half of 1943, a decrease of 24.3%.

In its summary, the Department of Commerce report states in part that, the gains in pulpwood receipts in the first six months justify satisfaction only from the standpoint that without this improved wood output, the allocation of pulp would necessarily have been curtailed further.

Rags

Mill buying of new cotton cuttings is active this week with other consuming buying and is absorbing about all supplies. The market situation is strong and prices are firm at ceiling levels.

Demand for old cotton rags is currently heavy. Some roofing mills report inability to obtain all the roofing grades they require. Call for thirds and blues is rather light, with demand for old whites heavy. Prices are firm at ceiling levels.

Old Rope and Bagging

Old rope continues in heavy demand for the major grades. No important change in the market situation has been reported at this date. Since Amendment to M-84 last month, a 25% reduction in Manila processing quotas is in effect. As of July 1, 1944, cordage manufacturers may process Manila rope only for the ten end-uses listed in the Cordage End-Use List.

Amendment to M-138, removes restrictions on the use of istle, except for average quality palma and pita, and removes controls on the use of the higher grades of palma or pita or on any quality of juamave or tula.

Old Waste Paper

The all-over demand for waste paper continues heavy. Less supplies are becoming available in the bulky grades, as less newsprint paper is now being consumed by publishers of newspapers. Receipts for the first half of 1944 totaled 4,172,000 tons, compared with 3,464,000 tons in the like period in 1943.

Twine

No important change in the twine market has been reported this week. Demand continues seasonally good, with no change in the market situation as to prices or supplies.

Abitibi Discussions Continue

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., August 21, 1944—Conversations and discussions on the reorganization of Abitibi Power and Paper Company are continuing, and it is understood that a plan is taking shape. The proposal, it is stated, would fund interest on the bonds and give the 6% preferred shareholders four shares of $20 par value new preferred and two shares of common, and the common stockholder would receive one new common share for each two common now held.

It is possible that the present 7% preferred stock will be left as is, with the holders getting non-interest-bearing script for the $91 per share of dividend arrears. This script would be retired over a period of years, probably 10, by the company through purchase in the market or by call.

Plan Post-War Pulp Mill

[FROM OUR REGULAR CORRESPONDENT]

TORONTO, Ont., August 21, 1944—A Canadian Press dispatch from Vancouver of August 17 states that Eagle Lake Sawmills Ltd., of Giscome, 35 miles east of Prince George, will build a pulp mill in Prince George area costing more than $3,000,000. The report was credited to W. B. Miller, president of Eagle Lake Sawmills Ltd. The capacity of the mill will be 200 tons daily and construction will begin as soon as equipment is available, which will probably not be until after the war.

Install New Wet End at Mellenville

MELLENVILLE, N. Y., August 21, 1944—The Columbia Box Board Mills, Inc., Mellenville Division, will shut down this week for a week or ten days in order to install a new wet end.

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EXPORTS TO ALL PARTS OF THE WORLD
PAPER AND BOARD

MISCELLANEOUS MARKETS

Office of the PAPER TRADE JOURNAL,
Wednesday, August 23, 1944.

BLANC FIXE—The market for blanc fixe continues to conform to prevailing quotations. Current demand fair. The pulp is currently quoted at $40 per ton, in barrels, at works; the powder is currently quoted at $60 per ton.

BLEACHING POWDER — Current demand is reported heavy. Supply situation reported less satisfactory. Bleaching powder is currently quoted at from $2.50 to $3.10 per 100 pounds. All prices in car lots, in drums, f.o.b. works.

CASEIN—OPA maximum prices on processed acid-precipitated casein are as follows: 10,000 pounds or more, 25 cents per pound; 2,000 pounds, 24½ cents per pound; less than 2,000 pounds, 24¾ cents per pound, f.o.b. shipping point.

CAUSTIC SODA—Supply situation reported under demand and market is rather tight at this date. Solid caustic soda is currently quoted at $2.30 per 100 pounds. The flake and ground are currently quoted at $2.70 per 100 pounds. All prices in car lots, in drums, f.o.b. works.

CHINA CLAY—Demand for some grades of china clay is reported moderate this week. Domestic filler clay is currently quoted at from $7.50 to $15 per ton; coating clay is quoted at from $12 to $22 per ton, at mines. Imported china clay is currently quoted at from $13 to $25 per long ton, ship side.

CHLORINE—Production reported high. Demand for all uses very heavy. Market reflects tighter supply situation. Prices remain unchanged. Chlorine is quoted at $1.75 per 100 pounds, in single-unit tank cars, f.o.b. works.

ROSIN—Lower prices are quoted on some grades of rosin this week: "G" gum rosin is currently quoted at $5.50 per 100 pounds, in barrels, Savannah. "FF" wood rosin is currently quoted at $5.50 per 100 pounds, in barrels, New York. Seventy per cent gum rosin is currently offered at $5.77 per 100 pounds, f.o.b. works.

SALT CAKE — Demand reported moderate. Quotations on salt cake continue to remain unchanged. Domestic salt cake is currently quoted at $16 per ton.

SODA ASH—Market requirements for soda ash continue very heavy. Production reported high but demand absorbs supplies. Prices continue unchanged. Prices on soda ash in car lots, per 100 pounds, are as follows: in bulk, $.90; in paper bags, $1.05; and in barrels, $1.35.

STARCH—Corn is reported coming into market in fair volume. Prospects for this year's crop less favorable on account of drought. Quotations continue unchanged. Pearl is currently quoted at $3.72 per 100 pounds. The powdered grade is currently quoted at $3.83 per 100 pounds. All prices f.o.b. Chicago.

SULPHITE OF ALUMINA — Supply situation is reported satisfactory. Quotations unchanged. Prices on the commercial grades are quoted at from $1.15 to $1.25 per 100 pounds. The iron free is currently quoted at $1.85 per 100 pounds. All prices in car lots, in bags, f.o.b. works.

SULPHUR—Demand is reported steady for sulphur. Quotations on all grades continue unchanged. Annual contracts are currently quoted at $16 per long ton, f.o.b. mines. The current contract price at Gulf Ports remains unchanged at $17.50 per long ton.

TALC—The market for domestic talc is reported moderately active. Quotations unchanged. Domestic grades are quoted at from $16 to $21 per ton, at mines.

MARKET QUOTATIONS

All market quotations, excepting those otherwise designated as official OPA maximum prices, are based on the manufacturers' price level as of October 1-15, 1941; maximum wholesale prices are based on the merchants' maximum prices for stipulated quantities at a quoted price to all customers of a like class, as shown by the merchant's sales records of goods delivered during March, 1942. A merchant's price list in effect in March 1942, showing quotations of actual shipments, will establish the current maximum prices.

Paper

(Delivered New York)

Standard News, per ton—			
Roll, contract...	*$58.00	@	—
Sheets	66.00	"	—
* OPA Maximum Price.			
Kraft—per cwt.—Carload Quantities Zone A, f.o.b. Mill			
Superstandard Wrapping ....*	$5.25	@	—
No. 1 Wrapping... *	5.00	"	—
Standard Wrapping*	4.75	"	—
Standard Bag.....*	4.375	"	—
* OPA Manufacturers' Prices.			
Tissues—Per Ream—Carlots			
White No. 1.....	1.12½	"	—
White No. 1 M. G.	1.10	"	—
White No. 1½....	1.00	"	—
White No. 2.....	.90	"	—
Anti-Tarnish M.F..	1.20	"	—
Colored	—	"	—
Kraft	.95	"	—
Manila	.90	"	—
Toilet—1 M. Sheets—Per Case			
Unbleached	4.25	"	—
Bleached	5.70	"	—
Unbl. Toilet, 1 M.	4.16	"	—
Bleached Toilet....	5.70	"	—
Paper Towels, Per Case—			
Unbleached, Jr.....	2.20	"	—
Bleached, Jr.	3.20	"	—
Manila—per cwt.—C. l. f. a.			
No. 1 Jute.....11.25		@	—
No. 1 Manila Wrapping, 35 lb....	6.00	"	6.25
No. 2 Manila Wrapping, 35 lb.....	5.75	"	6.00
Boards, per ton—			
News .....*	48.00	@	—
Chip .....*	48.00	"	—
Sgl. Mla. Ll. Chip*	60.00	"	—
White Pat. Coated*	75.00	"	—
Kraft Liners 50 lb.*	63.00	"	—
Binders Boards...	84.00	"	116.00

* OPA Base Prices per 10 tons. Less than 10 tons but over 3 tons, add $2.50; three tons or less, add $5; regular 35-39 basis, add $5.; basis 40-49, add $2.50; basis 91-100, add $2.50; basis 101-120, add $5.

The following are representative of distributors' resale prices:

Rag Content Bonds and Ledgers—White, Assorted Items, Delivered in Zone 1:

	Bonds		Ledgers	
100% Rag Ext. No. 1	$39.10	@$46.00	$40.25	@$47.25
100% Rag	32.20 "	37.75	33.35 "	39.25
85% Rag	.... "	....	29.90 "	35.00
75% Rag	23.00 "	27.00	24.15 "	28.25
65% Rag	.... "	....	22.80 "	27.75
50% Rag	18.70 "	22.75	19.90 "	24.25
25% Rag	16.40 "	20.00	17.55 "	21.50

Colors at $1.00 cwt. extra.

Sulphite Bonds and Ledgers—White, Assorted Items. Delivered in Zone 1:

	Bonds		Ledgers	
No. 1..	$10.55	@$12.75	$11.70	@$14.25
No. 2..	9.65 "	11.75	10.80 "	13.25
No. 3..	9.20 "	11.25	10.35 "	12.50
No. 4..	8.90 "	10.75	10.05 "	12.25

Colors $1.00 cwt. extra.

Free Sheet Book Papers—White, Cased Paper. Delivered in Zone 1:

No. 1 Glossy Coated...	$13.65	@	$15.50
No. 2 Glossy Coated...	12.40 "		14.00
No. 3 Glossy Coated...	11.60 "		13.25
No. 4 Glossy Coated...	11.15 "		12.75
No. 1 Antique (watermarked)	10.25 "		11.75
No. 2 Offset	9.60 "		11.00
A Grade E. F.....	9.35 "		10.75
A Grade S. & S. C...	9.60 "		11.00
B Grade E. F.	8.85 "		10.25
B Grade S. C.	9.10 "		10.50
C Grade E. F.	8.55 "		9.75
C Grade S. C.	8.80 "		10.00
D Grade E. F.	8.25 "		9.50
D Grade S. & S. C. ..	8.50 "		9.75

Ivory & India at $.50 cwt. extra.

Wood Pulp

OPA Maximum Prices and Canadian Manufacturers Prices, Less Freight Not Exceeding OPA Allowances.

Bl. Softwood Sulphite.....	$86.00
Unbl. Softwood Sulphite.....	74.00
Bl. Hardwood Sulphite.....	83.50
Unbl. Hardwood Sulphite.....	71.50
Bl. Mitscherlich	81.00
Unbl. Mitscherlich ..72.00 @	82.00
N. Bleached Sulphate	86.00
S. Bleached Sulphate	79.00
N. Semi-Bleached Sulphate...	82.00
S. Semi Bleached Sulphate...	75.00
N. Unbl. Sulphate.....	73.00
S. Unbl. Sulphate	63.50
Bl. Soda	72.00
Unbl. Soda	68.00
Groundwood	50.00

Transportation Allowances

Applying to Producers of Wet Wood Pulp.

	Below 50% Air Dry Weight
Northeast	$13.50
Lake Central	13.50
Southern	16.00
West Coast (in area).....	10.50
West Coast (out area).....	16.50

	50%-80% Air Dry Weight
Northeast	11.50
Lake Central	11.50
Southern	14.00
West Coast (in area).....	9.50
West Coast (out area).....	15.50

Applying to Producers of Dry Wood Pulp.

	Above 80% Air Dry Weight
Northeast	$8.50
Lake Central	8.50
Southern	11.00
West Coast (in area)	7.50
West Coast (out area)	13.50

Should freight charges actually exceed these allowances, the difference may be added to the maximum prices.

Domestic Rags

New Rags (Prices to Mill f. o. b. N. Y.)			
Shirt Cuttings—			
New White, No. 1..	6.50	@	7.25*
Silesias No. 1.....	—	"	5.75*
New Unbleached...	6.75	"	7.50*
Blue Overall	—	"	5.50*
Fancy	—	"	3.50*
Washables	—	"	3.00*
Bleached Khaki Cuttings	—	"	4.25*
Unbleached Khaki Cuttings	—	"	3.50*

* OPA Maximum Prices.

RECORD PAPER & PULP STOCK VALVES, "BONNETLESS SELF CLEARING"---"RESIDUE POCKETLESS TYPE"

METALS — I.B.B.M., all iron, bronze or stainless steels, body parts plain or rubber lined.

- The "FAST THREADED" screw stem and ball bearing speeds valve operation.
- The packing box is extra deep, is adjustable and provided with specialized lubricated packings and special type gland and compression bolts.
- The yoke mountings are such that yokes for various methods of gate operation are interchangeable.
- Replaceable gate edge shoes are used in valves 10" and larger. These shoes are of special value when valves are installed stem and pipe horizontal.

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DEINKING — DECOLORIZING

K-121-B and K-C-2

COOKING PROCESSES

THE KINSLEY CHEMICAL COMPANY

12500 Berea Road Cleveland, Ohio

Old Rags

White, No. 1—			
Repacked	*3.80	"	—
Miscellaneous	*3.20	"	—
White, No. 2—			
Repacked	*2.90	"	—
Miscellaneous	*2.65	"	—
Third and Blues—			
Repacked	*2.20	"	—
Miscellaneous	*1.80	"	—
Roofing Rags—			
No. 1	*1.55	"	—
No. 2	*1.45	"	—
No. 3 (bagging)	*1.35	"	—
No. 4	*1.35	"	—
No. 5A	*1.35	"	—
Old Manila Rope	5.75	"	—

OPA Maximum Prices.

Foreign Rags

All Prices nominal

New Rags

New Dark Cuttings	2.25	@	2.40
New Mixed Cuttings	2.00	"	2.20
New Light Silesias	5.50	"	5.75
Light Flannelettes	5.50	"	5.75
New White Cuttings	7.00	"	7.50
New Light Oxfords	4.00	"	4.50
New Light Prints	3.00	"	3.25

Old Rags

No. 1 White Linens	7.50	"	8.50
No. 2 White Linens	6.50	"	7.50
No. 3 White Linens	4.50	"	—
No. 4 White Linens	2.25	"	3.25
No. 1 White Cotton	4.25	"	4.75
No. 2 White Cotton	3.25	"	3.75
No. 3 White Cotton	2.50	"	3.00
No. 4 White Cotton	1.90	"	2.20
Extra Light Prints	2.00	"	2.40
Ord. Light Prints	1.75	"	2.15
Med. Light Prints	1.55	"	1.95
Dutch Blue Cottons	2.25	"	2.50
French Blue Linens	3.00	"	—
Checks and Blues	2.00	"	—
Linsey Garments	1.90	"	2.00
Dark Cottons	1.50	"	1.60
Old Shopperies	1.30	"	1.45
New Shopperies	1.45	"	1.50
French Blues	2.25	"	2.50

BAGGING

(Prices to Mill, f. o. b. N. Y.)

Gunny No. 1—			
Foreign	Nominal		
Domestic	4.25	@	4.35
Wool Tares, light	4.25	"	4.50
Wool Tares heavy	4.50	"	5.00
Bright Bagging	4.50	"	4.85
Manila Rope—			
Foreign	—	"	—
Domestic	*5.75	"	—
Jute Threads	5.50	"	—
No. 1 Sisal Strings	*4.00	"	—
Mixed Strings	2.00	"	—

*OPA Maximum Price.

Old Waste Papers

(F. o. b. New York)

OPA Maximum Prices, Baled

No. 1 Hard White Envelope Cuts, one cut	3.37½	@	—
No. 1 Hard White Envelope Cuts	3.12½	"	—
No. 1 Hard White Shavings, unruled	2.87½	"	—
No. 1 Hard White Shavings, ruled	2.50	"	—
Soft White Shavings, one cut	2.87½	"	—
No. 1 Soft White Shavings	2.50	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 Fly Leaf Shavings	1.67½	"	—
No. 2 Fly Leaf Shavings	1.12½	"	—
No. 1 Groundwood Fly Leaf Shavings	1.25	"	—
No. 2 Mixed Groundwood Fly Leaf Shavings	.90	"	—
Mixed Colored Shavings	.75	"	—
Mixed Groundwood Colored Shavings	.90	"	—
Overissue Magazines	1.67½	"	—
No. 1 Heavy Books & Magazines	1.92½	"	—
Mixed Books	1.10	"	—
No. 1 White Ledger	2.30	"	—
No. 2 Mixed Ledger, colored	2.00	"	—
New Manila Envelope Cuttings, one cut	2.87½	"	—
New Manila Envelope Cuttings	2.65	"	—
Extra Manilas	1.95	"	—
Mixed Kraft, Env. & Bag Cuttings	2.75	"	—
Kraft Envelope Cuttings	3.25	"	—
Triple Sorted, No. 1 Brown Soft Kraft	2.50	"	—
New 100% Kraft Corrugated Cuttings	2.25	"	—
No. 1 Assorted Old Kraft	1.75	"	—
New Jute Corrugated Cuttings	.90	"	—
Old 100% Kraft Corrugated Containers	1.75	"	—
Old Corrugated Containers	1.40	"	—
Box Board Cuttings	.72½	"	—
White Blank News	1.65	"	—
Overissue News	1.10	"	—
No. 1 News	1.00	"	—
No. 1 Mixed Paper	.95	"	—
Old Corrugated Containers	82½	"	—
Mill Wrappers	1.10	"	—

Twines

All Prices Nominal

(F. o. b. Mill)

(Soft Fiber)

Coarse Polished—			
India	.21	@	—
White Hemp	.21	"	—
Fine Polished—			
Fine India	.26	"	—
Unpolished—			
Box	17½	"	—
Paper Makers	.17	"	—
Tube Rope	.19	"	—
Wall Paper	.20½	"	—
Wrapping	.23	"	—
Soft Fiber Rope	.19	"	—
Cotton	.25	"	—

(Hard Fiber)

Medium Java	.18	"	—
Mex. Sisal	.16	"	—
Manila		"	—

PHILADELPHIA

Domestic Rags (New)

(Price to Mill.)

Shirt Cuttings—	
New White No. 1	.07¼
New White No. 2	.05¾
Light Silesias	.05¾
Black Silesias, soft	.03¾
New Unbleached	.07½
Washable Prints	.04¼
Washable No. 1	.03
Blue Overall	.05½
Cottons—According to grades—	
Washable shredding	.01¾
Fancy Percales	.04¾
New Black Soft	.03¼
Khaki Cuttings—	
Unbleachable Cotton Cuttings	.03½
Bleachable Cotton Cuttings	.04¼
Men's Corduroy	.03½
Ladies' Corduroy	.03
Cottonades	.03¾

Domestic Rags (Old)

White No. 1—Repacked	3.80	"	—
Miscellaneous No. 1	3.20	"	—
Miscellaneous No. 2	2.65	"	—
White No. 2—Repacked	2.90	"	—
Thirds and Blues—			
Miscellaneous	1.80	"	—
Repacked	2.20	"	—
Black Stockings—			
(Export)	Nominal		
Roofing Stock—			
Foreign No. 1	Nominal		
Domestic No. 1	1.55	"	—
Domestic No. 2	1.45	"	—
Roofing Bagging	1.35	"	—
Old Manila Rope	5.75	"	—

Bagging

(F. o. b. Phila.)

Gunny No. 1—			
Foreign	Nominal		
Domestic	3.00	"	3.50
No. 1 Clean bright—			
Sisal Strings			.04
No. 2 Clean bright—			
Sisal Strings			.03
Sisal Jute	.02½	"	.02¾
Scrap—			
No. 1	3.25	"	3.50
No. 2	1.75	"	1.80
Wool Tares No. 1	4.00	"	4.25
No. 1 New Light Burlap	3.00	"	4.00
New Burlap Cuttings	3.75	"	4.00

Old Papers

(F. o. b. Phila)

OPA Maximum Prices, Baled

No. 1 Hard White Envelope Cuts, one cut	3.37½	"	—
No. 1 Hard White Shavings, unruled	2.87½	"	—
Soft White Shavings, one cut	2.50	"	—
White Blank News	1.65	"	—
Soft White Shavings			
Mixed	2.10	"	—
No. 1 White Ledger	2.30	"	—
No. 2 Ledger, colored	2.00	"	—
No. 1 Heavy Books & Magazines	1.92½	"	—
Overissue Magazines	1.67½	"	—
New Manila Envelope Cuttings	2.65	"	—
No. 1 Assorted Old Kraft	1.75	"	—
No. 1 Mixed Paper	.95	"	—
Box Board Cuttings	.72½	"	—
Kraft Corrugated Cuttings	2.25	"	—
Old Corrugated Containers	1.40	"	—
Overissue News	1.00	"	—
No. 1 News	1.00	"	—

BOSTON

Old Papers

(F. o. b. Boston)

OPA Maximum Prices, Baled

No. 1 Hard White Shavings, unruled	2.87½	@	—
No. 1 Hard White Shavings, ruled	2.50	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 Fly Leaf Shavings	1.67½	"	—
No. 2 Fly Leaf Shavings	1.12½	"	—
No. 1 Groundwood Fly Leaf Shavings	1.25	"	—
No. 2 Groundwood Fly Leaf Shavings	.90	"	—
Mixed Colored Shavings	.75	"	—
New Manila Envelope Cuts, one cut	2.87½	"	—
Hard White Envelope Cuts, one cut	3.37½	"	—
Triple Sorted No. 1 Brown Soft Kraft	2.50	"	—
Mixed Kraft Env. & Bag Cuttings	2.75	"	—
Kraft Envelope Cuttings	3.25	"	—
No. 1 Heavy Books & Magazines	1.92½	"	—
New Manila Envelope Cuts, one cut	2.87½	"	—
New Manila Envelope Cuttings	2.65	"	—
White and Colored Tabulating Cards	2.25	"	—
Ground Wood Tabulating Cards	1.35	"	—
White Blank News	1.65	"	—
No. 1 Assorted Old Kraft	1.75	"	—
No. 1 Mixed Paper	.95	"	—
Overissue News	1.10	"	—
Box Board Cuttings	.72½	"	—
New Corrugated Cuttings, Kraft	2.25	"	—
Old 100% Kraft Corrugated Containers	1.75	"	—
Old Corrugated Containers	1.40	"	—
Jute Corrugated Cuttings	1.07½	"	—

Bagging

(F. o. b. Boston)

Gunny Bagging—			
Foreign	(nominal)		
Domestic	—	@	2.75
Sisal Rope No. 1	*4.75	"	—
Sisal Rope No. 2	*4.25	"	—
Mixed Rope	—	"	1.55
Transmission Rope			
Foreign	(nominal)		
Domestic	2.75	"	3.00
Manila Rope—			
Foreign	(nominal)		
Domestic	5.75	"	—
Soft Jute Rope	5.25	"	—
Jute Cor Threads	3.00	"	3.50
Bleachery Burlap	8.50	"	9.00
Scrap Burlap—			
Foreign	(nominal)		
Domestic	—	"	2.50
South American	—	"	3.00
Wool Tares—			
Foreign	(nominal)		
Domestic	4.25		
Aust. Wool Pouches	—	"	3.25
New Zealand Wool Pouches	—	"	3.50
New Burlap Cuttings	4.75	"	5.00
Heavy Baling Bagging	4.00	"	4.25
Paper Mill Bagging	2.50	"	3.00
No. 2 Roofing Bagging	1.35	"	—

*OPA Maximum Price

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	.04½	@	.04¾
Fancy Percales	.04¼	"	.03
New White No 1	.06¾	"	.07
New Light Flannelettes	.05½	"	.06
Canton Flannels, Bleached	.06	"	.06¼
Underwear Cutters, Bleached	.06¼	"	.06¾
Underwear Cutters, Unbleached	.05¼	"	.06
Silesias No. 1	.06	"	.06¼
New Black Silesias	.03	"	.03¼
Red Cotton Cuttings	.03½	"	.04
Soft Unbleached	.06½	"	.06¾
Blue Cheviots	.05½	"	.06
Fancy	.02¼	"	—
Washable	.02¼	"	—
Khaki Cuttings	.02¼	"	.03
O. D. Khaki	.03½	"	.03¾
Corduroy	.03¼	"	.03½
New Canvas	.06¼	"	.06¾
B. V. D. Cuttings	.06¼	"	.06¾

Domestic Rags (Old)

(F. o. b. Boston)

White No. 1—			
Repacked	3.80	@	—
Miscellaneous	3.20	"	—
White No. 2—			
Miscellaneous	2.65	"	—
Twos and Blues, Repacked	2.20	"	—
Old Blue Overalls	2.25	"	2.50
Thirds and Blues Repacked	2.20	"	—
Miscellaneous	1.80	"	—
Black Stockings	3.50	"	4.00
Roofing Stock—			
No. 1	1.55	"	—
No. 2	1.45	"	—
No. 3	1.35	"	—
No. 4	1.35	"	—
No. 5, Quality A	1.35	"	—
Quality B	1.20	"	—
Quality C	.95	"	—
Old Manila Rope	5.75	"	—

*OPA Maximum Prices

Foreign Rags

(F. o. b Boston)

Canvas	(nominal)
Dark Cottons	(nominal)
Dutch Blues	(nominal)
New Checks and Blues	(nominal)
Old Fustians	(nominal)
Old Linsey Garments	(nominal)
New Silesias	(nominal)

CHICAGO

Waste Paper

(F. o. b. Chicago)

OPA Maximum Prices, Baled

Shavings—			
No. 1 Hard White Envelope Cuts, one cut	1.37½	"	—
No. 1 Hard White Shavings, unruled	2.87½	"	—
No. 1 Soft White Shavings	2.50	"	—
No. 1 White Ledger	2.30	"	—
No. 1 Heavy Books & Magazines	1.92½	"	—
White Blank News	1.65	"	—
Mixed Kraft Env. & Bag Cuttings	2.75	"	—
No. 1 Assorted Old Kraft	1.75	"	—
Overissue News	1.10	"	—
No. 1 News	1.00	"	—
No. 1 Mixed Paper	.95	"	—
No. 1 Roofing Rags	1.55	"	—
No. 1 Roofing Bags	1.45	"	—